

QUINARKTM EW



Contains carfentrazone-ethyl, the active ingredient used in Shark[®] EW.

INTENDED FOR AGRICULTURAL OR COMMERCIAL USE ON SPECIFIED LABELED CROPS ONLY

ACTIVE INGREDIENT:	(% by weight)
Carfentrazone-ethyl	21.3%
OTHER INGREDIENTS:	78.7%
TOTAL:	100.0%

This product contains 1.9 pounds active ingredient per gallon.
Contains Petroleum Distillates

EPA Reg. No.: 91234-255

KEEP OUT OF REACH OF CHILDREN CAUTION

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

See below for additional Precautionary Statements.

FIRST AID	
If swallowed:	<ul style="list-style-type: none"> Call a poison control center or doctor immediately for treatment advice. DO NOT give any liquid to the person. DO NOT induce vomiting unless told to do so by the poison control center or doctor. DO NOT give anything by mouth to an unconscious person.
If on skin or clothing:	<ul style="list-style-type: none"> Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.
If in eyes:	<ul style="list-style-type: none"> Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact SafetyCall at 1-844-685-9173 for emergency medical treatment information.	
NOTE TO PHYSICIAN	
Carfentrazone-ethyl is expected to have low oral and dermal toxicity, and moderate inhalation toxicity. It is expected to be slightly irritating to the skin and minimally irritating to the eyes. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care. Contains petroleum distillate. Vomiting may cause aspiration pneumonia.	

For Chemical Emergency: Spill, Leak, Fire, Exposure, or Accident, Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)

QuinarkTM EW is not manufactured, or distributed by FMC Corporation, seller of Shark[®] EW.



Manufactured for:
Atticus, LLC
940 NW Cary Parkway, Suite 200
Cary, NC 27513

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed. Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. 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
- Shoes plus socks
- Chemical resistant gloves made of barrier laminate, butyl rubber \geq 14 mils, nitrile rubber \geq 14 mils, or viton \geq 14 mils

USER SAFETY REQUIREMENTS:

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.

USER SAFETY RECOMMENDATIONS

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

ENVIRONMENTAL HAZARDS

Carfentrazone-ethyl is very toxic to algae and moderately toxic to fish. **DO NOT** apply directly to water, to areas where surface water is present or to intertidal areas below the high water mark, except as specified on this label. **DO NOT** contaminate water when disposing of equipment washwater or rinsate.

For Ground Water:

Residues of this chemical have properties and characteristics associated with chemicals detected in ground water. Residues of this chemical may leach into ground water if the chemical is used in areas where soils are permeable, particularly where the water table is shallow.

For Surface Water:

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features including ponds, streams, and springs will reduce the potential loading of carfentrazone-ethyl residues from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

Fish Advisory Statement:

This product may be hazardous to aquatic organisms, particularly in clear, shallow water bodies that are adjacent to treated areas. Transport to water by runoff or spray drift of this product in areas where surface water is present, or intertidal areas below the mean high water mark, should be avoided. Do not contaminate water when disposing of equipment wash water or rinsate.

Non-target Organism Advisory Statement:

This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated site. Protect the forage and habitat of non-target organisms by minimizing spray drift.

DIRECTIONS FOR USE

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

DO NOT apply this product through any type of irrigation system.

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 this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

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, including plants, soil, or water, is: Long sleeve shirt and pants, waterproof gloves, and shoes plus socks.

NON-AGRICULTURAL USE REQUIREMENTS

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

Re-entry Statement: DO NOT allow people (other than applicator) or pets on treatment area during application. Do not enter treatment area until spray has dried.

PRODUCT INFORMATION

Quinark EW is emulsion oil in water formulation. **Quinark EW** is to be mixed with water, liquid fertilizer or mixtures of water and liquid fertilizer and adjuvants and applied to labeled crops and non-crop areas for selective post-emergence control of broadleaf weeds, for sucker control, for burndown prior to planting, as a harvest aid and to defoliate/desiccate labeled crops.

Weed control is optimized when the product is applied to actively growing weeds. **Quinark EW** is a contact herbicide. Within a few hours following application, the foliage of susceptible weeds show signs of desiccation.

Extremes in environmental conditions including temperature, moisture, soil conditions, and cultural practices may affect the activity of **Quinark EW** symptoms may be accelerated under moist conditions. Weed control may be reduced when weeds are hardened off by drought and become less susceptible to **Quinark EW**.

Quinark EW is rapidly absorbed through the foliage of plants. To prevent significant crop response, applications must not be made within 6 to 8 hours of either rain or irrigation or when heavy dew is present on the crop. Environmental conditions and with certain spray tank additives may increase herbicidal symptoms on the crop.

Spray Drift Management

Aerial Applications

- For aerial applications, the distance of the outer most nozzles on the boom must not exceed 75% of the length of the wingspan or 90% of rotor diameter. To further reduce drift, use on half of the length of the wingspan or rotor diameter at the edge of the field.
- Applicators must only spray when wind speed is 10 miles per hour or less.
- Applicators must not spray during temperature inversions.
- For aerial applications, the release height must be no higher than 10 feet from the top of the crop canopy, unless a greater application height is required for pilot safety.
- For aerial applications, select nozzle and pressure that produce medium to coarse spray droplets as indicated in nozzle manufacturer's catalogues and in accordance with ASABE Standard 572.1.

Ground Boom Applications

- For ground boom applications, apply with the nozzle height no more than 4 feet above the ground or crop canopy. For all other ground applications, the nozzle must be no more than 4 feet from the target vegetation.
- For ground applications, select nozzle and pressure that produce medium to coarse spray droplets as indicated in nozzle manufacturer's catalogues and in accordance with ASABE Standard 572.1.

Spray Drift Advisories

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR AND THE GROWER.

Carfentrazone-ethyl is a contact herbicide. Avoid any drift conditions that would allow the product to contact desirable vegetation. Carfentrazone-ethyl is not volatile; however, mist from spray drift may cause injury to sensitive plants.

The interaction of 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.

The following drift management requirements must be followed to avoid off-target movement from applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses, or to applications of dry materials. Where states have more stringent regulations, they must be observed.

Information on Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The optimum 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 when applications are made improperly, or under unfavorable environmental conditions (See **Wind**, **Temperature and Humidity**, and **Temperature Inversions**).

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers.

For all non-aerial applications, wind speed must be measured adjacent to the application site, on the upwind side, immediately prior to application.

Controlling Spray Droplet Size

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows usually produce larger droplets.
- **Pressure** - Do not use pressures greater than that specified by the nozzle manufacturer. 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 - For aerial application, orient nozzles so that the spray is released parallel to the airstream. A parallel orientation results in larger droplets than other orientations and reduces air turbulence and the production of small droplets. 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. For aerial applications, solid stream nozzles oriented straight back produce the largest droplets and potentially the least drift.

Boom Length - For some aerial use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

Application Height - Making applications at the lowest height that is safe reduces exposure of spray droplets to evaporation and wind movement. Aerial applications should not be made at a height greater than 10 feet above the top of the target plants unless a greater height is required for aircraft safety.

Swath Adjustment - Swath adjustment distance must increase, with increasing drift potential (higher wind, smaller drops, etc.).

Drift Reduction Technology (DRT) - The EPA Drift Reduction Technology (DRT) Program was developed to encourage the manufacture, marketing, and use of spray technologies scientifically verified to significantly reduce pesticide drift. The use of DRTs should result in significantly less pesticide from spray applications drifting and being deposited in areas not targeted by those applications, compared to spray technologies that do not meet the minimum DRT standard. EPA-verified drift reduction technologies (DRTs) and their ratings will be added to the following webpage as they become available: <https://www.epa.gov/reducing-pesticide-drift/epa-verified-and-rated-driftreduction-technologies>

Wind - Drift potential is lowest between winds speeds of 3 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. Applications shall be avoided below 3 mph due to variable wind direction and high inversion potential. Do not apply carfentrazone-ethyl when wind speed exceeds 10 mph. NOTE: Local terrain can influence wind patterns. Every applicator shall be familiar with local wind patterns and how they affect spray drift.

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

Temperature Inversions - Do not apply carfentrazone-ethyl during a temperature inversion because the 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 following morning. Their presence can be indicated by ground fog. However, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Shielded Sprayers - Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

Sensitive Areas - Carfentrazone-ethyl shall only be applied when the wind is blowing away from adjacent sensitive areas (e.g. residential areas, bodies of water, known habitats for threatened or endangered species and non-target crops).

TANK MIXTURES

Quinark EW may be tank mixed with other registered herbicides for controlling broader spectrum weeds. Refer to this and other products' labels for mixing instructions, precautions, and restrictions. Follow the most restrictive instructions for each tank mix partner. When preparing a new tank mix conduct an appropriate compatibility test by mixing proportional amounts of all spray ingredients in a test vessel (jar) prior to tank mixing with other products. Shake the mixture vigorously and allow it to stand for five to ten minutes. Rapid precipitation of the ingredients and failure to re-suspend when shaken indicates that the mixture is incompatible and must not be applied. Provided the jar test indicates the mixture to be compatible, prepare the tank mixture as follows: Fill the tank one fourth full with water. With the agitator operating, add the advised amounts of ingredients using the following order: dry granules first and liquid suspensions (flowables) second. As the agitation continues and the tank is filled with water add emulsifiable concentrate products third followed by the addition of water soluble products.

ADJUVANT USE REQUIREMENTS

The use of a quality spray adjuvant is required for optimum performance. Refer to the individual crop sections of this label for specific adjuvant type and use rates.

ON-FARM TESTING

Not all varieties or cultivars of labeled crops have been fully evaluated under all environmental and soil conditions. Consult with your local seed company for additional information.

It may also be beneficial to conduct small on-farm trials under actual conditions with specific varieties or cultivars before treating large acreage.

MIXING INFORMATION

Mixing and Loading Instructions

Start by filling the tank with 3/4 of the desired volume of clean water and, with agitation, add the proper amount of **Quinark EW**. Complete filling the spray tank to the desired volume. Maintain sufficient agitation to keep materials in solution during both mixing and application and until the spray tank has been emptied. For tank mixtures, follow your local extension guidelines for mixing order. General guidelines are: add dry materials first and agitate until mixed; then 6 EW or water soluble liquids; then EC formulations; then, add adjuvants last. Ensure the compatibility of other products and/or liquid fertilizers with **Quinark EW** before mixing them together in the spray tank.

Mixing Precautions

Avoid the overnight storage of **Quinark EW** spray mixtures. If spray solution is stored overnight or longer, thoroughly agitate spray mixture before applying the solution. Premixing **Quinark EW** spray solutions in nurse tanks is not advised. Maintain continuous and adequate spray solution agitation until all the spray solution has been used. **DO NOT** use with tank additives that alter the pH of the spray solution below pH 5 or above pH 8. Buffer spray solution to alter the pH range as appropriate.

SPRAY EQUIPMENT CLEAN-OUT

Many new pesticides are very active at low rates, especially to sensitive crops. Residues left in mixing equipment, spray tanks, hoses, spray booms and nozzles can cause crop effects if they are not properly cleaned. As soon as possible after spraying **Quinark EW** and before using the sprayer equipment for any other applications, the sprayer equipment must be thoroughly cleaned using the following procedure.

In addition, users must take appropriate steps to ensure proper equipment clean-out for any other products mixed with **Quinark EW** as required on the other product labels. More complete cleaning can be achieved if the spray system is cleaned immediately following the application.

1. Drain sprayer tank, hoses, spray boom and spray nozzles. Use a high-pressure detergent wash to remove physical sediment and residues from the inside of the sprayer tank and thoroughly rinse. Then, thoroughly flush sprayer hoses, spray boom and spray nozzles with a clean water rinse. Remove and clean spray tips and all filters and screens (tank, spray hose and spray tips) separately in the ammonia solution of Step 2.
2. Next, prepare a sprayer cleaning solution by adding three gallons of ammonia (containing at least 3% active) per 100 gallons of clean water. Prepare sufficient cleaning solution to allow the operation of the spray system for a minimum of 15 minutes to thoroughly flush hoses, spray boom and spray nozzles.
3. Convenient and thorough cleaning of the sprayer can be achieved if the ammonia solution or fresh water is left in the spray tank, hoses, spray booms and spray nozzles overnight or during storage.
4. Before using the sprayer, completely drain the sprayer system. Rinse the tank with clean water and flush through the hoses, spray boom, and spray nozzles with clean water.
5. Properly dispose of all cleaning solution and rinsate in accordance with Federal, State, and local regulations and guidelines.

DO NOT apply sprayer cleaning solutions or rinsate to sensitive crops.

DO NOT store the sprayer overnight or for any extended period of time with **Quinark EW** spray solution remaining in the tank, spray lines, spray boom plumbing, spray nozzles or strainers.

If the sprayer has been stored or idle, purge the spray boom and nozzles with clean water before beginning any application.

Should small quantities of **Quinark EW** remain in inadequately cleaned mixing, loading and/or spray equipment, they may be released during subsequent applications potentially causing effects to certain crops and other vegetation. Atticus accepts no liability for any effects due to inadequately cleaned equipment.

APPLICATION METHODS

GROUND APPLICATION

Use ground sprayers designed, calibrated and operated to deliver uniform spray droplets to the targeted plant or plant parts. Adjust sprayer nozzles to achieve uniform plant coverage. Overlaps and slower ground speeds (caused by continuing to spray while starting, stopping or turning) may result in higher application rates and possible crop response.

Spray Buffer for Ground Application

Spray buffer zones for ground applications, listed in chart below, are required near desirable perennial vegetation or crops before blossom and after total leaf drop, and/or near other desirable or annual crops.

Buffers For Ground Application		
Quinark EW USE RATE (lbs ai per acre)	Low Spray Boom Buffer (ft)	High Spray Boom Buffer (ft)
0.024	20	33
0.031	26	46

Broadcast Boom Sprayers

Use a broadcast boom sprayer equipped with the appropriate nozzles, spray tips and screens and adjusted to provide optimum spray distribution and coverage at the appropriate operating pressures. Use nozzles that produce minimal amounts of fine spray droplets. **DO NOT** exceed 30 psi spray pressure unless otherwise required by the manufacturer of drift reducing nozzles. Apply a minimum of 10 gallons of finished spray per acre. Use higher spray volumes when there is a dense weed population or crop canopy. Adjust sprayers to position spray tips no lower than 12 - 18 inches above the crop or weed canopy depending on the nozzle specification. Operate the sprayer to avoid the application of high herbicide rates directly over the rows or into the whorl of treated crop plants.

Directed Sprayers

For directed sprayers apply **Quinark EW** with drop nozzles or other post-directed spray equipment.

Post-directed Applications

Post-directed applications may be utilized when labeled crops have reached minimum growth stages where sprays may be directed to the target weeds, but is not deposited on the green stem, foliage, blooms or fruit of the crop. **DO NOT** apply when conditions favor drift or when wind speed is above 10 mph.

Use drop nozzles or other spray equipment capable of directing the spray to target weeds and away from sensitive plant parts. Apply when labeled crops have reached minimum growth stages described in specific crop sections of this label and when spray will not be deposited on green stems, foliage, blossoms or fruit.

Hooded Sprayers

To apply **Quinark EW** using a hooded sprayer, refer to the **Hooded Sprayer** section for specific adjustment and operation instructions. For additional information, refer to the individual crop sections of this label.

Hand Held or High Volume Orchard Gun Sprayers

Quinark EW may be applied to certain labeled crops and non-crop areas with hand operated sprayers including backpack sprayers, compression sprayers, knapsack sprayers, or high volume orchard gun sprayers. Directed applications may be utilized when labeled crops have reached minimum growth stages where sprays may be directed to the target weeds, but is not deposited on the green stem, foliage, blooms or fruit of the crop. Refer to individual crop sections of this label.

AERIAL APPLICATION

Use nozzle types and arrangements that will provide optimum coverage while producing a minimal amount of fine droplets. Apply at a minimum of 3 gallons of finished spray per acre. Spray volumes greater than 3 GPA may be needed for harvest aid and defoliation treatments, or for dense weed populations or with heavy crop canopies.

For Aerial Application in California:

Refer to individual crop sections to see if Quinark EW application is permitted by air.

For applications near desirable perennial vegetation or crops before blossom and after total leaf drop, and/or near other desirable or annual crops:

- **DO NOT** apply within 100 feet of all desirable vegetation or crops.
- If wind up to 10 miles per hour is blowing toward desirable vegetation or crops, **DO NOT** apply within 500 feet of the desirable vegetation or crops.
- **DO NOT** apply when winds are in excess of 10 mph or when inversion conditions exist.

ALLOWABLE QUINARK EW USE INFORMATION

Refer to the crop section of this label for specific product use directions.

Table 1:

Maximum Allowable Quinark EW Use Per Acre Per Year* for Crop or Subgroup		
Crop Group/Subgroup	Maximum Rate Quinark EW (fl oz/acre) Per Year	Maximum Rate Quinark EW (lb ai/acre) Per Year
Alfalfa and Clover (Group 18)	2.5	0.04
Alfalfa and Clover (Group 18), harvest aid only	3.84	0.06
Asparagus	3.84	0.06
Banana	7.9	0.124
Berry, low growing (Subgroup 13-07G)	6.15	0.096
Bushberry (Subgroup 13-07B)	6.15	0.096
Cacao	7.9	0.124
Caneberry (Subgroup 13-07A)	25.6	0.4
Citrus fruit (Group 10-10)	7.9	0.124
Coconut	7.9	0.124
Coffee	7.9	0.124
Corn	2.0	0.031
Cotton	7.9	0.124
Cotton, harvest aid only	3.2	0.05
Date	7.9	0.124
Fig	7.9	0.124
Fruit, small vine climbing - except fuzzy kiwifruit (Subgroup 13-07F)	7.9	0.124
Grass (Group 17)	5.95	0.093
Guayule	7.9	0.124
Herbs and Spices (Group 19)	6.15	0.096
Hops	7.7	0.12
Horseradish	6.15	0.096
Indian Mulberry	7.9	0.124
Kiwifruit	7.9	0.124
Mint	1.92	0.030
Nut, Tree (Group 14-12)	7.9	0.124
Oil Seed - except cottonseed (Group 20)	6.15	0.096
Olive	7.9	0.124
Palm Heart	7.9	0.124
Peanut	6.15	0.096

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Maximum Allowable Quinark EW Use Per Acre Per Year* for Crop or Subgroup		
Crop Group/Subgroup	Maximum Rate Quinark EW (fl oz/acre) Per Year	Maximum Rate Quinark EW (lb ai/acre) Per Year
Peanut (harvest aid)	2.0	0.031
Persimmon	7.9	0.124
Pome fruit (Group 11-10)	7.9	0.124
Pomegranate	7.9	0.124
Small Grains	1.0	0.016
Sorghum (harvest aid)	1.0	0.016
Sorghum (grown for seed and grain)	1.0	0.016
Soybeans (preplant, in-season and harvest aid)	1.5	0.023
Stone fruit (Group 12-12)	7.9	0.124
Sugarcane	6.15	0.096
Sugarcane (harvest aid)	2.0	0.031
Tea	7.9	0.124
Tobacco	3.2	0.05
Tropical fruit Trees	6.15	0.096
Vanilla	7.9	0.124
Vegetable, brassica (Group 5)	6.15	0.096
Vegetable, bulb (Group 3-07)	6.15	0.096
Vegetable, cucurbit (Group 9)	6.15	0.096
Vegetable, foliage of legume (Group 7)	6.15	0.096
Vegetable, fruiting (Group 8-10)	6.15	0.096
Vegetable, leafy (except Brassica) (Group 4)	6.15	0.096
Vegetable, leaves of root and tuber (Group 2)	6.15	0.096
Vegetable, legume (Group 6 - except soybean)	6.15	0.096
Vegetable, root (Subgroups 1A and 1B)	6.15	0.096
Vegetable, tuberous and corm (Subgroup 1C)	11.6	0.181
*The total allowable usage includes all applications made to the field per calendar year. This includes fallow treatments, burndown treatments and all in-season treatments, including harvest aid.		

PREHARVEST INTERVALS

Refer to the crop section of this label for specific product use directions.

Table 2:

Preharvest Intervals (PHI) or Maximum Growth Stage for Quinark EW Applications	
Crop Group/Subgroup	PHI (Days Before Harvest) or Growth Stage
Alfalfa and Clover (Group 18) grown for Forage and/or Hay	21
Alfalfa and Clover (Group 18) grown for Seed	3
Asparagus	5
Banana	3
Berry, low growing (Subgroup 13-07G)	0
Bushberry (Subgroup 13-07B)	0
Cacao	3
Caneberry (Subgroup 13-07A)	15
Citrus fruit (Group 10-10)	3
Coconut	3
Coffee	3
Corn	14 Leaf Collars
Corn, Sweet corn grown for seed, popcorn, field corn (harvest aid)	3
Cotton (harvest aid)	7
Cotton (preplant and in-season)	7
Date	3
Fruit, small vine climbing - except fuzzy kiwifruit (Subgroup 13-07F)	3
Fig	3
Grass (Group 17)	0
Guayule	3
Herbs and Spices (Group 19)	0
Hops	7
Horseradish	0
Indian Mulberry	3
Kiwifruit	3
Mint	5
Nut, Tree (Group 14-12)	3

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Preharvest Intervals (PHI) or Maximum Growth Stage for Quinark EW Applications	
Crop Group/Subgroup	PHI (Days Before Harvest) or Growth Stage
Oil Seeds (Group 20 - except cottonseed)	0
Olive	3
Palm Heart	3
Peanut	7
Persimmon	3
Pome fruit (Group 11-10)	3
Pomegranate	3
Small Grains (Except winter wheat)	Jointing Stage
Small Grains (harvest aid) - include Winter Wheat	7
Sorghum (harvest aid)	3
Sorghum (grown for seed and grain)	14 Leaf Collars Stage
Soybean (harvest aid)	3
Soybeans (preplant and in-season)	V10
Stone fruit (Group 12-12)	3
Sugarcane	7
Tea	3
Tobacco	6
Tropical fruit	0
Vanilla	3
Vegetable, Brassica (Group 5)	0
Vegetable, bulb (Group 3-07)	0
Vegetable, cucurbit (Group 9)	0
Vegetable, foliage of legume (Group 7)	0
Vegetable, fruiting (Group 8-10)	0
Vegetable, leafy except brassica (Group 4)	0
Vegetable, leaves of root and tuber (Group 2)	0
Vegetable, legume (Group 6 - except soybeans)	0
Vegetable, root (Subgroups 1A and 1B)	0
Vegetable, tuberous and corm (Subgroup 1C)	7

CROP ROTATIONAL RESTRICTIONS

Following an application of Quinark EW, a treated field may be rotated to a registered crop at any time, subject to specific crop restrictions that may be found in the individual crop sections. All other crops may be planted after 12 months.

WEED CONTROL

When used as directed, Quinark EW will provide control of the listed weeds up to four (4) inches in height, or as specified.

Table 3:

Weeds Controlled	Quinark EW Use Rate fl oz (pound active ingredient) per acre
Lambsquarters, common (up to 3 inches tall)	0.5 fl oz (0.008 pound active ingredient) per acre
Morningglory, ivyleaf (up to 3 leaves)	
Morningglory, pitted (up to 3 leaves)	
Nightshade, Eastern black	
Pigweed, redroot	
Velvetleaf	
Waterhemp (up to 2 inches tall)	
Weeds Controlled	Quinark EW Use Rate fl oz (pound active ingredient) per acre
All the weeds controlled at 0.5 fl oz (0.008 pound active) per acre plus the weeds listed below:	0.8 fl oz (0.013 pound active ingredient) per acre
Cheeseweed	
Filaree, redstem	
Flixweed	
Lambsquarters, common	
Mallow, common	
Morningglory, entireleaf	
Morningglory, ivyleaf	
Morningglory, pitted	
Morningglory, scarlet	
Nightshade, hairy	
Pennycress, field	
Pigweed, prostrate	
Pigweed, smooth	
Pigweed, tumble	
Purslane, common	

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Weeds Controlled	Quinark EW Use Rate fl oz (pound active ingredient) per acre
Sesbania, hemp	0.8 fl oz (0.013 pound active ingredient) per acre
Smartweed, PA (seedling)	
Spurge, prostrate	
Tansymustard	
Velvetleaf (24")	
Waterhemp, common & tall	
Weeds Controlled	Quinark EW Use Rate fl oz (pound active ingredient) per acre
All the weeds controlled at 0.8 fl oz (0.013 pound active) per acre plus the weeds listed below:	1.0 fl oz (0.016 pound active ingredient) per acre
Amaranth, spiny	
Anoda, spurred	
Bedstraw, catchweed	
Buffalobur	
Carpetweed	
Cocklebur	
Copperleaf, hophornbeam	
Cotton, GMO Varieties	
Cotton, volunteer	
Eclipta	
Fiddleneck, coast	
Groundcherry, smooth (seedling)	
Groundcherry, Wright's	
Jimsonweed	
Kochia	
Lettuce, Prickly 2 - 3 leaf	
Nettle, burning	
Nightshade, American black	
Nightshade, black	
Rocket, London	
Shepherdspurse	
Speedwell, Virginia	
Spiderwort, tropical	
Thistle, Russian (up to 2 inches tall)	
Wallflower, bushy	

Weeds Controlled	Quinark EW Use Rate fl oz (pound active ingredient) per acre
All the weeds controlled at 1.1 fl oz (0.016 pound active) per acre plus the weeds listed below:	1.6 fl oz (0.025 pound active ingredient) per acre
Amaranth, Palmer	
Corn Spurry	
Filaree, broadleaf	
Filaree, white	
Lettuce, prickly	
Mallow, Venice (up to 2 inches tall)	
Meadowfoam	
Redmaids	

Burndown of Top Growth

Weed List	Quinark EW Use Rate fl oz (pound active ingredient) per acre
Bindweed, field	1.0 - 2.0 fl oz (0.016 - 0.032 pound active ingredient) per acre
Burclover	
Dayflower	
Sage, lanceleaf	
Sowthistle	

AGRICULTURE FARM AND FARMSTEAD USE - NON-CROP

Quinark EW may be used for general broadleaf weed control on farms and farmsteads in areas outside of crop growing areas. See the rate and weed table to determine the proper rate for areas including grass waterways, field edges, terraces, equipment storage areas, shelter belts, fence lines, farm buildings, dry ditch, canal banks etc. **Quinark EW** is a contact herbicide and coverage is essential for good weed control. **Quinark EW** will control emerged weeds only. Weeds that germinate after application will require repeat treatments.

Precautions

Extreme caution must be used to avoid contact with desirable vegetation. **DO NOT** spray or allow spray mist of **Quinark EW** to come in contact with green stem tissue, foliage, blooms or desirable fruit.

BOOM EQUIPMENT

Apply **Quinark EW** at up to 2.0 fl oz (0.031 pound active ingredient) per acre.

Adjuvant Requirements

A nonionic surfactant crop oil concentrate or methylated seed oil is required. Use a non-ionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient or a petroleum or oil seed based crop oil concentrate (COC) at 1.5 to 2% v/v (1.5 to 2.0 gallons per 100 gallons of spray solution) or a methylated seed oil (MSO). A high quality sprayable liquid nitrogen fertilizer at 2 to 4% v/v (2 to 4 gallons per 100 gallons) or ammonium sulfate at 2 to 4 pounds per acre in addition to the selected NIS, MSO or COC is allowed.

Tank Mixes for Boom Equipment

Quinark EW may be mixed with other herbicides labeled for this method of application in non-crop areas for broader spectrum weed control. See **Mixing and Loading Instructions** under the **PRODUCT INFORMATION** section of this label for specific mixing instructions. Refer to this and the other products' labels for mixing instructions, precautions, and restrictions. Follow the most restrictive instructions for each tank mix partner.

SPOT TREATMENTS

(Applications with hand operated sprayer including backpack sprayers, compression sprayers, knapsack sprayers.)

Mix the amount of **Quinark EW** for the desired percent spray solution from the table below. These mixtures are based on 1 gallon of solution evenly covering 1000 square feet. Applications must be made on a spray-to-wet basis. Spray coverage must be uniform and complete.

Use lower concentrations for small seedling weeds at the 2 - 3 leaf stage. Higher concentrations are needed for larger weeds up to the 6-leaf stage. Applications beyond the 6-leaf stage may result in only partial control. **Quinark EW** may be mixed with other labeled herbicides e.g. glyphosate, glufosinate, and paraquat for broader-spectrum weed control.

Table 4:

Amount Quinark EW					
Desired Volume	0.5 fl oz/ acre	0.8 fl oz/ acre	1.0 fl oz/ acre	1.6 fl oz/ acre	2.0 fl oz/ acre
1 Gal	0.4 ml	0.6 ml	0.7 ml	1.1 ml	1.4 ml
5 Gal	1.7 ml	2.7 ml	3.4 ml	5.4 ml	6.8 ml
25 Gal	8.5 ml	13.6 ml	17.0 ml	27.2 ml	34.0 ml

Adjuvant Requirements for Spot Treatments

A nonionic surfactant (NIS), methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use a nonionic surfactant (NIS) at 0.25% v/v having at least 80% active ingredient, or a methylated seed oil (MSO), or crop oil concentrate (COC) (petroleum or seed oil) at 1 to 2% v/v. A high quality sprayable liquid nitrogen fertilizer at 2 to 4% v/v or ammonium sulfate (AMS) at the rate of .75 to 1.5 ounces per gallon in addition to the nonionic surfactant methylated seed oil or crop oil is allowed.

Table 5:

Adjuvants					
Desired Volume	NIS	COC or MSO		Liquid Nitrogen	
	0.25% v/v	1.5% v/v	2.0% v/v	2.0% v/v	4.0% v/v
1 Gal	0.35 fl oz	1.9 fl oz	2.5 fl oz	2.5 fl oz	5.0 fl oz
5 Gal	1.6 fl oz	9.6 fl oz	12.8 fl oz	12.8 fl oz	25.6 fl oz
25 Gal	8.0 fl oz	47 fl oz	2 qt	2 qt	4 qt

PREPLANT BURNDOWN

Apply **Quinark EW** alone or with other herbicides or liquid fertilizers as a burn-down treatment to control or suppress weeds. **Quinark EW** is effective as a burndown treatment for crops prior to new plantings. Apply up to 2.0 fl oz **Quinark EW** (0.031 pound active ingredient) per acre. **DO NOT** exceed the applicable amounts as listed for the specific crop in the **Maximum Allowable Quinark EW Use Table 1**. For optimum performance, make applications to actively growing weeds up to 4 inches high or rosettes less than 3 inches across. **Coverage is essential for good control.** Optimum broad-spectrum control of annual and perennial weeds requires a tank mix with a labeled burndown herbicides e.g. glyphosate, glufosinate, paraquat, 2,4-D, or dicamba.

Apply Quinark EW as a burndown treatment no later than one (1) day after planting by seed to any of the following crops. (See specific crop section for other precautions or restrictions.)

Alfalfa and Clover (Crop Group 18)

Cereal grains (Crop Group 15)

Grasses (Crop Group 17)

Oil Seed (Crop Group 20 - except cottonseed)

Peanut

Soybean

Sugarcane

Vegetables, legume (succulent or dried) (Crop Group 6)

Vegetable, tuberous and corm (Subgroup 1C)

Apply Quinark EW as a burndown treatment no later than one (1) day before transplanting any of the following crops.

Avocado

Banana

Berry, low growing subgroup 13-07G

Cacao

Coconut

Coffee

Date

Fig

Fruit, citrus (Crop Group 10-10)

Fruit, pome (Crop Group 11-10)

Fruit, stone (Crop Group 12-12)

Guayule

Hops

Horseradish

Indian Mulberry

Kiwifruit

Nuts, tree (Crop Group 14-12)

Olive

Palm Heart

Persimmon

Pomegranate

Small Fruit Vine, Climbing - except fuzzy kiwifruit (Subgroup 13-07F)

Tea

Tobacco

Vanilla

(continued)

For transplants (not seeded) of the following crops.
Vegetables, Brassica (Crop Group 5)
Vegetable, cucurbit (Crop Group 9)
Vegetable, fruiting (Crop Group 8-10)
Vegetables, leafy except Brassica (Crop Group 4)
Apply Quinark EW as a burndown treatment no later than seven (7) days before planting by seed any of the following crops.
Vegetables, Brassica (Crop Group 5)
Vegetable, cucurbit (Crop Group 9)
Vegetable, fruiting (Crop Group 8-10)
Vegetable, leafy except Brassica (Crop Group 4)
Vegetable, tuberous and corm (Crop Subgroup 1C)
Apply Quinark EW as a burndown treatment no later than thirty (30) days before planting by seed any of the following crops.
Sugarbeet
Vegetable, bulb (Crop Group 3-07)

Adjuvant Requirements for Preplant Burndown

A nonionic surfactant crop oil concentrate or methylated seed oil is required. Use a non-ionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient or a petroleum or oil seed based crop oil concentrate (COC) at 1.0 to 2% v/v (1.0 to 2.0 gallons per 100 gallons of spray solution) or a methylated seed oil (MSO). A high quality sprayable liquid nitrogen fertilizer at 2 to 4% v/v (2 to 4 gallons per 100 gallons) or ammonium sulfate at 2 to 4 pounds per acre in addition to the selected NIS, MSO or COC is allowed.

Quinark EW Plus Glyphosate or Glufosinate

Apply Quinark EW up to 2.0 fl oz (0.031 pound active ingredient) per acre in combination with glyphosate or glufosinate products at their labeled rates for increased speed of activity and improved control of weeds listed below.

When applied as directed, Quinark EW plus labeled herbicides including glyphosate, glufosinate, or paraquat will provide increased speed of activity and improved control of weeds listed below in Table 6 plus the weeds listed in Table 3 for the rate of Quinark EW used.

Table 6:

Buttercup, smallflower	Morningglory, spp.
Chickweed	Pennycress, field
Curled Dock	Prostrate knotweed
Cutleaf Evening Primrose	Purslane, common
Bindweed, field	Smartweed, PA
Dandelion, common	Star-of-Bethlehem
*Fleabane	Shepherdspurse
Groundsel	Tansymustard
Henbit	Thistle, Russian
Kochia	Thistles, annual & biennial
Lambsquarters, common	Wild buckwheat
*Marestail	Wild hemp

*glyphosate susceptible marestail and fleabane

When tank mixing with fertilizer solutions, be sure to prepare an Quinark EW premixture of Quinark EW and clean water.

For other specific mixing instructions, refer to the **Mixing and Loading Instructions** under the **PRODUCT INFORMATION** section.

HOODED SPRAYER APPLICATIONS

Apply Quinark EW to the row middles of the following emerged crops using hooded sprayers to control labeled weeds between the rows of the below listed emerged crops. This treatment is for crops grown in rows, and includes crops grown in rows where mulch or plastic barriers are used as a weed control tool in the drill or plant line.

Hooded sprayers must be designed, adjusted and operated in such a manner to totally enclose the spray pattern and to prevent any spray deposition to green stem tissue, foliage, blooms or fruit of the crop.

Sprayers shall not be operated at more than five (5) miles per hour in order to minimize vertical movement of the sprayer during application, including the bouncing or raising of the equipment. Use extreme care in applying to fields where the soil surface is uneven, has deep furrows, drains or other contours that would disturb the adjustment and positioning of the spray equipment and/or the spray pattern. Applications must not be made when wind conditions may disturb the spray patterns and result in spray deposition to sensitive plants or plant parts.

For optimum performance, make application to actively growing weeds up to 4 inches tall and rosettes less than 3 inches across. **Coverage is essential for good control.**

Crops Labeled for Use with Hooded Sprayers:

Hooded Spray application can be used for all crops listed on this **Quinark EW** label.

Note: Crop injury will occur when spray is allowed to come in contact with the green stem tissue, leaves, blooms or fruit of the crop.

See listing for individual commodities contained within the respective Crop groups:

Vegetable, Root and Tuber (Group 1) including: **Arracacha**, Arrowroot, Chinese artichoke, Jerusalem artichoke, Garden Beet, Sugar beet, Edible Burdock, Edible Canna, Carrot; Bitter and Sweet Cassava, Celeriac, Chayote (root), Turnip-rooted Chervil, Chicory, Chufa, Dasheen (taro), Ginger, Ginseng, Horseradish, Leren, Turnip-rooted Parsley, Parsnip, Potato, Radish, Oriental (daikon) Radish, Rutabaga, Salsify, Black Salsify, Spanish Salsify, Skirret, Sweet Potato, Tanier, Turmeric, Turnip, Yam bean; True Yam

Vegetable, leaves of root and tuber (Group 2) including: Garden Beet, Sugar Beet, Edible Burdock, Carrot, Bitter and Sweet Cassava, Celeriac, Chervil, Turnip-rooted, Chicory, Dasheen (taro), Parsnip, Radish, Oriental (daikon) Radish, Rutabaga, Black Salsify, Sweet Potato, Tanier, Turnip, True Yam

Vegetable, bulb (Group 3-07) including: Fresh Leaves Chive, Chinese Fresh Leaves Chive, Bulb Daylily, Elegans Hosta; Bulb Fritillaria, Leaves Fritillaria, Bulb Garlic, Great-headed Garlic, Serpent Bulb Garlic, Kurrat; Lady's Leek, Leek, Wild Leek, Bulb Lily, Beltsville Bunching Onion, Bulb Onion, Chinese Bulb Onion, Fresh Onion, Green Onion, Macrostem onion, Pearl onion, Potato Bulb Onion, Tree Tops Onion, Welsh Tops Onion, Bulb Shallot, Fresh Leaves shallot, and cultivars, varieties, and/or hybrids of these

Vegetable, leafy except brassica (Group 4) including: Amaranth (Chinese Spinach), Arugula (Rocket), Cardoon, Celery, Chinese Celery, Celtuce, Chervil, Edible-Leaved Chrysanthemum, Garland Chrysanthemum, Corn Salad, Cress, Garden, Upland Cress, Dandelion, Dock (Sorrel), Endive (Escarole), Florence Fennel, Head And Leaf Lettuce, Orach, Parsley, Garden Purslane, Winter Purslane, Radicchio (Red Chicory), Rhubarb, Spinach, New Zealand Spinach, Vine Spinach, Swiss Chard

Vegetable, brassica (Group 5) including: Broccoli; Chinese Broccoli, (gai lon), Broccoli Raab(rapini), Brussels Sprouts, Cabbage, Chinese Cabbage, (bok choy); Chinese Cabbage (napa), Chinese Mustard Cabbage (gai choy), Cauliflower, Cavalo Broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens

Vegetable, legume, except soybean (succulent or dried) (Group 6) including: Bean (*Lupinus* spp.) (includes grain lupin, sweet lupin, white lupin, and white sweet lupin); bean (*Phaseolus* spp.) (includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean); bean (*Vigna* spp.) (includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean); broad bean (fava); chickpea (garbanzo); guar; jackbean; lablab bean (hyacinth bean); lentil; pea (*Pisum* spp.) (includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea); pigeon pea; soybean (immature seed); sword bean

Vegetable, foliage of legume (Group 7) including: Plant parts of any legume vegetable included in the legume vegetables group that will be used as animal feed

Vegetable, fruiting (Group 8-10) including: African eggplant, Bush Tomato, Bell Pepper, Cocona, Currant Tomato, Eggplant, Garden Huckleberry, Goji Berry, Groundcherry, Martynia, Naranjilla, Okra, Pea Eggplant, Pepino, Non-Bell Pepper, Roselle, Scarlet Eggplant, Sunberry, Tomatillo, Tomato, Tree Tomato, and cultivars, varieties, and/or hybrids of these

Vegetable, cucurbit (Group 9) including: Chayote (fruit), Chinese Waxgourd (Chinese Preserving Melon), Citron Melon, Cucumber, Gherkin, Edible Gourd (includes Hyotan, Cucuzza, Hechima, Chinese Okra), Momordica spp. (includes Balsam Apple, Balsam Pear, Bittermelon, Chinese Cucumber), Muskmelon (includes Cantaloupe), Pumpkin, Summer Squash, Winter Squash (includes Butternut Squash, Calabaza, Hubbard Squash, Acorn Squash, Spaghetti Squash), Watermelon

Citrus Fruit (Group 10-10) including: Australian Desert Lime, Australian Finger-Lime, Australian Round Lime, Brown River Finger Lime, Calamondin, Citron, Citrus hybrids, Grapefruit, Japanese Summer Grapefruit, Kumquat, Lemon, Lime, Mediterranean Mandarin, Mount White Lime, New Guinea Wild Lime, Sour Orange; Sweet Orange, Pummelo, Russell River Lime, Satsuma Mandarin, Sweet Lime, Tachibana Orange, Tahiti Lime, Tangelo, Tangerine (mandarin), Tangor, Trifoliate Orange; Uniq Fruit, and cultivars, varieties, and/or hybrids of these

Pome Fruit (Group 11-10) including: Apple; azarole; crabapple; loquat; mayhaw; medlar; pear; pear, Asian; quince; quince, Chinese; quince, Japanese; tejocote; cultivars, varieties, and/or hybrids of these

Stone Fruit (Group 12-12) including: Apricot, Japanese Apricot, Capulin, Black Cherry, Nanking Cherry, Sweet Cherry, Tart Cherry, Chinese Jujube, Nectarine, Peach, Plum, American Plum, Beach Plum, Canada Plum, Cherry Plum, Chickasaw Plum, Damson Plum, Japanese Plum, Klamath Plum, Prune Plum, Plumcot, Sloe and cultivars, varieties, and/or hybrids of these

Caneberry (subgroup 13-07A) including: Blackberry, Loganberry, Black and Red Raspberry, Wild Raspberry, and cultivars, varieties, and/or hybrids of these

Bushberry (subgroup 13-07B) including Aronia Berry, Highbush Blueberry, Lowbush Blueberry, Buffalo Currant, Chilean Guava, Highbush Cranberry, Black Currant, Red Currant, Elderberry, European Barberry, Gooseberry, Edible Honeysuckle, Huckleberry, Jostaberry, Juneberry (Saskatoon Berry), Lingonberry, Native Currant, Salal, Sea Buckthorn and cultivars, varieties, and/or hybrids of these

Fruit, small vine climbing - except fuzzy kiwifruit (subgroup 13-07F) including: Amur River Grape, Gooseberry, Grape, Hardy Kiwifruit, Maypop, Schisandra Berry and cultivars, varieties, and/or hybrids of these

Berry, low growing (subgroup 13-07G) including: Bearberry, Bilberry, Lowbush Blueberry, Cloudberry, Cranberry, Lingonberry, Muntries, Partridgeberry, Strawberry, and cultivars, varieties, and/or hybrids of these

(continued)

See listing for individual commodities contained within the respective Crop groups: (continued)

Tree Nuts (Group 14-12) including: African Nut-Tree, Almond, Beechnut, Brazil Nut; Brazilian Pine, Bunya, Bur Oak, Butternut, Cajou Nut, Candlenut, Cashew, Chestnut, Chinquapin, Coconut, Coquito nut, Dika Nut, Ginkgo, Guiana Chestnut, Hazelnut (filbert); Heartnut, Hickory Nut, Japanese Horse-Chestnut, Macadamia Nut, Mongongo Nut, Monkey-Pot, Monkey Puzzle Nut, Okari Nut, Pachira Nut, Peach Palm Nut, Pecan, Pequi, Pili Nut, Pine Nut, Pistachio, Sapucaia Nut, Tropical Almond, Black Walnut, English Walnut, Yellowhorn and cultivars, varieties, and/or hybrids of these

Cereal Grains (Group 15) including: Barley, Buckwheat, Corn, Millet (Pearl and proso), Oats, Popcorn, Rye, Sorghum (milo), Teosinte, Triticale, and Wheat

Forage, fodder and straw of Cereal Grains (Group 16) including forage fodder and straw of all commodities included in the cereal grains (Group 15)

Grasses (Group 17) including: Any grass, Gramineae family (either green or cured) except sugarcane and those included in the cereal grains group, that will be fed to or grazed by livestock, all pasture and range grasses and grasses grown for hay or silage

Non-grass Animal Feed (Group 18) including: Alfalfa, Velvet Bean, Clover (*Trifolium* spp., *Melilotus* spp.), Kudzu, Lespedeza, Lupin, Sainfoin, Trefoil, Vetch, Crown Vetch, Milk Vetch

Herbs and Spices (Group 19) including: Allspice, Angelica, Anise (seed), Star Anise, Annatto (seed), Balm (Lemon Balm), Basil (Fresh and Dried), Borage, Burnet, Camomile, Caper Buds, Caraway, Black Caraway, Cardamom, Cassia Bark, Cassia Buds, Catnip, Celery Seed, Chervil (dried), Chive, Chinese Chive, Cinnamon, Clary, Clove Buds, Coriander Leaf (Cilantro or Chinese Parsley), Coriander Seed (Cilantro), Costmary, Culantro (Leaf), Culantro (Seed), Cumin, Curry (Leaf), Dill (Dillweed), Dill (Seed), Fennel (Common), Florence Fennel (seed), Fenugreek, Grains of Paradise, Horehound, Hyssop, Juniper Berry, Lavender, Lemongrass, Lovage (leaf), Lovage (seed), Mace, Marigold, Marjoram (includes Sweet or Annual Marjoram,

Wild Marjoram or Oregano, and Pot Marjoram), Mustard (Seed), Nasturtium, Nutmeg, Parsley (Dried), Pennyroyal, Black Pepper, White Pepper, Poppy (Seed), Rosemary, Rue, Saffron, Sage; Summer and Winter Savory, Sweet Bay, Tansy Tarragon, Thyme, Vanilla, Wintergreen, Woodruff, Wormwood

Oil Seeds (Subgroups 20A & 20B, except Cottonseed) including: Borage, Crambe, Cuphea, Echium, Flax Seed, Gold of Pleasure, Hare's Ear Mustard, Lesquerella, Lunaria, Meadowfoam, Milkweed, Mustard Seed, Oil Radish, Poppy Seed, Rapeseed, Sesame, Sweet Rocket, Calendula, Castor Oil Plant, Chinese Tallowtree, Euphorbia, Evening Primrose, Jojoba, Niger Seed, Rose Hip, Safflower, Stokes Aster, Sunflower, Tallowwood, Tea Oil Plant, Vernonia and cultivars, varieties, and/or hybrids of these

Tropical fruit: including Acerola, Atemoya, Avocado, Biriba, Black Sapote, Canistel, Cherimoya, Custard apple, Feijoa, Guava, Jaboticaba, Llama, Longan, Lychee, Mamey Sapote, Mango, Papaya, Passionfruit, Pawpaw, Pulasan, Rambutan, Sapodilla, Soursop Spanish lime, Star apple, Starfruit, Sugar apple, Wax jambu, Aloe vera, Cactus

APPLICATION INSTRUCTIONS

Alfalfa and Clover (Established Stands Only): Crop Group 18 Non-grass Animal Feed

Methods and Timing	PHI	Target Weeds	Rates	Restrictions
Post-emerge Weed Control (Dormant, In-crop, and Stubble)	DO NOT apply within 21 days of harvest for stands grown for forage and hay.	Refer to Table 3	Apply 0.5 - 2.5 fl oz (0.008 - 0.04 pounds active ingredient) per acre.	DO NOT apply more than 2.5 fl ozs (0.04 pounds active ingredient) per acre per application for post-emerge weed control applications in nongrass animal feeds.
Harvest Aid	DO NOT apply within 21 days of harvest for stands grown for forage and hay. DO NOT apply within 3 days of harvest for stands grown for seed.	Refer to Table 3	Apply 2.0 to 3.8 fl oz/A (0.031 - 0.06 pounds active ingredient) per acre.	DO NOT apply more than 2.5 fl ozs. (0.04 pounds active ingredient) per acre per year for post-emerge weed control applications in nongrass animal feeds. DO NOT make more than 5 application per acre per year when using reduced rates for post-emerge weed control in nongrass animal feeds. After an application of this product to crop group 18 (nongrass animal feed crops), you may only rotate the field to a carfentrazone-ethyl registered crop.

DIRECTIONS FOR USE:

Post-emerge Weed Control Treatment

Dormant Season (Fall or Winter Application Post-emerge on Weeds)

Quinark EW may be applied on dormant crop stubble alone or in combination with other registered herbicides for the post-emergence control of weeds in established nongrass animal feed stands during the dormant season (between growing seasons). To control insect pests, **Quinark EW** may be tank mixed with insecticides, including Mustang Maxx.

(continued)

Alfalfa and Clover (Established Stands Only): Crop Group 18 Non-grass Animal Feed

DIRECTIONS FOR USE: *(continued)*

Between Cutting In-Season Application (Spring/Summer Applications Post-emerge on Weeds)

Quinark EW may be applied alone or in combination with other registered herbicides between cuttings (in-season) for the post-emergence control of weeds in established crop stands. In-season applications must be made as soon as possible after removal of the previous hay crop and prior to significant regrowth on stems and crowns. Applications may be made from hay removal up to 6 inches of new growth. To control insect pests, **Quinark EW** may be tank mixed with insecticides, including Mustang Maxx.

Quinark EW Use Rates - Post-emerge

For optimum results, weeds must be treated when small. Applications must be made in spray volumes sufficient to provide complete coverage of foliage. Use a minimum of 10 gallons of finished spray per acre for ground application equipment, and a minimum of 3 gallons per acre of finished spray for aerial equipment. For optimum results, apply **Quinark EW** to weeds up to 4 inches tall and rosettes less than 3 inches across. Use a quality nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient. For more active treatments, use a Crop Oil Concentrate (COC) at 0.5 to 1.0% v/v (one half to one gallon per 100 gallons). Some temporary leaf speckling and necrosis may occur on green alfalfa or clover tissue present with between cutting applications, which must be rapidly outgrown under good growing conditions. Adjuvant selection and high moisture environmental conditions will enhance this effect. A high quality sprayable liquid nitrogen fertilizer at 2 to 4% v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the nonionic surfactant methylated seed oil or crop oil is allowed. Coverage is essential for satisfactory performance. Repeat application if necessary. **DO NOT** irrigate just prior to or just after application. Weed control under dry and hot conditions will be improved with COC or similar products.

Tank Mix

For tank mixture applications, refer to the use directions and restrictions of the mixture product. **Quinark EW** may be tank mixed with other labeled herbicides to control weeds not listed on this label. Read and follow all manufacturers' label directions and label restrictions for the companion herbicide. When tank mixing **Quinark EW** with other products, be sure **Quinark EW** is mixed in the spray tank water first.

Harvest Aid Treatment

Apply **Quinark EW** crops grown for forage, hay or seed alone or as a tank mixture with other harvest aids. Applications shall be made when the crop is mature, or according to Extension Service guidelines in the use area. Apply **Quinark EW** at 2.0 to 3.8 fl ozs. (0.031 to 0.06 pounds active ingredient) per acre, but not to exceed maximum labeled rates. Refer to the **Maximum Allowable Quinark EW Use Rate** chart and the **PREHARVEST INTERVAL** charts for additional application information. If treatments of **Quinark EW** have been made to the crop earlier, that volume must be considered in determining the maximum use rate as a harvest aid treatment.

Applications shall be made in spray volumes sufficient to provide complete coverage of foliage. Use a minimum of 10 gallons of finished spray per acre for ground application and 5 gallons per acre for aerial application. A nonionic surfactant (NIS), methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient, or a methylated seed oil, or crop oil concentrate (COC) (petroleum or seed oil) at 1 to 2% v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4% v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the nonionic surfactant methylated seed oil or crop oil is allowed. Coverage is essential for satisfactory performance. Repeat application if necessary.

Note

If applied as a tank mixture, refer to the other product's label for restrictions on tank mixing, and observe all label precautions, instructions and rotational cropping restrictions.

ASPARAGUS

Methods and Timing	PHI	Target Weeds	Rates	Restrictions
Post-emerge Weed Control	DO NOT apply within 5 days of harvest.	Refer to Table 3	Apply one to two applications of Quinark EW at 0.5 to 1.92 fl oz (0.008 to 0.031 pound active ingredient) per acre. Use higher rates when Asparagus tissues and weeds are under stress or are larger.	DO NOT apply more than 1.92 fl oz (0.031 pound active ingredient) per acre per application. DO NOT apply more than 3.84 fl oz (0.06 pound active ingredient) per acre per year. DO NOT make more than 2 applications per acre per year. DO NOT make applications less than 20 days apart.

DIRECTIONS FOR USE:

Apply **Quinark EW** as a broadcast application after harvest of Asparagus spears for control of broadleaf weeds and new existing Asparagus tissues.

Coverage is essential for good control.

Adjuvant Requirements

Applications shall be made in spray volumes sufficient to provide complete coverage of foliage. Use a minimum of 10 gallons of finished spray per acre for ground application and 5 gallons per acre for aerial application. A nonionic surfactant (NIS), methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient, or a methylated seed oil, or crop oil concentrate (petroleum or seed oil) at 1 to 2% v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4% v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the nonionic surfactant, methylated seed oil or crop oil is allowed. Repeat application if necessary. For specific mixing instructions, refer to the **Mixing and Loading Instructions** under the **PRODUCT INFORMATION** section.

BUSHBERRY Subgroup 13-07B

Methods and Timing	PHI	Target Weeds	Rates	Restrictions
Post-emerge Weed Control	Can be applied up to harvest.	Refer to Table 3	Apply up to 2.0 fl oz (0.031 pound active ingredient) per acre.	DO NOT apply more than 2.0 fl oz (0.031 lb ai) during the dormant season. DO NOT apply more than 6.15 fl oz (0.096 pound active ingredient) per acre per year.

DIRECTIONS FOR USE:

Quinark EW applications will control susceptible emerged broadleaf weeds. Repeat applications may be necessary for weeds that emerge after an **Quinark EW** treatment.

Equipment and Application

Apply only by ground equipment including boom sprayers, shielded or hooded sprayers, hand-held or high-volume wands or orchard guns. Use a minimum of 20 gallons finished spray solution per broadcast acre.

Dormant Applications

Apply **Quinark EW** as a broadcast application to the base of the trunk to control emerged and actively growing weeds during the dormant stage of the crop.

Post-directed Applications for Broadleaf Weed Control

Apply **Quinark EW** as a directed spray avoiding contact with the berry plant but directed at actively growing weeds. **Quinark EW** is a contact herbicide and coverage is essential for good weed control. **DO NOT** allow **Quinark EW** spray mist to come in contact with green stem tissue, desirable fruit, blooms or foliage.

Newly planted bush berries must only be treated with shielded sprayers or hooded sprayers.

Quinark EW Use Rates

Apply up to 2 fl oz (0.031 pound active ingredient) **Quinark EW** per broadcast acre. For best control, apply to seedling weeds in the 2 to 3-leaf stage. Use higher labeled rates of **Quinark EW** for larger weeds up to 6 leaves. Weeds greater than 6 leaves may be only partially controlled. See **Table 3** for **Quinark EW** use rates and weeds controlled.

(continued)

BUSHBERRY Subgroup 13-07B**DIRECTIONS FOR USE: (continued)****Adjuvant Requirements**

A nonionic surfactant, methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use a nonionic surfactant at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient, or a methylated seed oil, or crop oil concentrate (COC) (petroleum or seed oil) at 1 to 2% v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4% v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the nonionic surfactant methylated seed oil or crop oil is allowed.

Quinark EW may be mixed with other registered herbicides for broader-spectrum weed control. When tank mixing with fertilizer solutions, be sure to prepare an **Quinark EW** premixture of **Quinark EW** and clean water.

See **Mixing and Loading Instructions** under the **PRODUCT INFORMATION** section of this label for specific mixing instructions. Refer to this and the other products' labels for mixing instructions, precautions, and restrictions. Follow the most restrictive instructions for each tank mix partner.

Precautions

Extreme caution must be taken during applications when desirable fruit, foliage and/or blooms are present in order to avoid spotting or necrosis. **DO NOT** allow **Quinark EW** spray mist to come in contact with green stem tissue, desirable fruit, blooms or foliage.

For seedling or newly transplanted bushes, **DO NOT** allow spray to contact green bark of trunk area. Use shielded sprayers only.

Band Treatment Application

For band treatment, apply the broadcast equivalent rate and volume per acre. To determine these:

Band Width (inches)	X	Broadcast Rate Per Acre	=	Band Rate
Row Width (inches)				
Band Width (inches)	X	Broadcast Volume Per Acre	=	Band Volume
Row Width (inches)				

CANEBERRY (Subgroup 13-07A)

Methods and Timing	PHI	Target Weeds	Rates	Restrictions
Post-emerge Weed Control	DO NOT apply within 15 days of harvest.	Refer to Table 3	Apply 6.4 fl oz Quinark EW (0.1 pound active ingredient) per broadcast acre as a directed spray when weeds and primocanes are approximately 6 inches tall. Apply up to 2 fl oz (0.031 pound active ingredient) Quinark EW per broadcast acre. For best control, apply to actively growing weeds up to 4 inches tall or rosettes less than 3 inches across.	DO NOT apply more than 6.4 fl oz (0.1 pound active ingredient) per broadcast acre per application. DO NOT apply more than 25.6 fl oz (0.4 pound active ingredient) per acre per year. DO NOT make more than 12 applications per acre per year when using reduced application rates. DO NOT make applications less than 14 days apart.

DIRECTIONS FOR USE:**Equipment and Application**

Apply only by ground equipment including boom sprayers, shielded or hooded sprayers, hand-held or high-volume wands or orchard guns. **DO NOT** allow **Quinark EW** spray mist to come in contact with green stem tissue, desirable fruit, blooms or foliage. **DO NOT** apply when conditions favor drift or when wind is above 10 mph.

Post-directed Application for Primocane and Weed Control

Quinark EW is a contact herbicide for directed application for the control of primocanes and weeds.

Use a minimum of 20 gallons finished spray per broadcast acre at intervals of 14 to 21 days. Direct spray to the bottom 18 inches of the canes and to the soil 24 inches from each side of the plant row. Refer to weed control list in **Table 3** for appropriate weed control information.

Adjuvant Requirements

An adjuvant is required. See **Adjuvant Requirements** below under weed control.

(continued)

CANEBERRY (Subgroup 13-07A)**DIRECTIONS FOR USE: (continued)****Post-directed Application for Weed Control**

Apply **Quinark EW** to actively growing weeds. **Quinark EW** is a contact herbicide and coverage is essential for good weed control. Use a minimum of 20 gallons finished spray solution per acre.

Band Treatment Application

For band treatment, apply the broadcast equivalent rate and volume per acre. To determine these:

Band Width (inches)	X	Broadcast Rate Per Acre	=	Band Rate
Row Width (inches)				
Band Width (inches)	X	Broadcast Volume Per Acre	=	Band Volume
Row Width (inches)				

Coverage is essential for good control.

Adjuvant Requirements

A nonionic surfactant (NIS), methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient, or a methylated seed oil, or crop oil concentrate (COC) (petroleum or seed oil) at 1 to 2% v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4% v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the nonionic surfactant methylated seed oil or crop oil is allowed.

Tank Mix

Quinark EW may be mixed with other herbicides registered in caneberries for broader-spectrum weed control.

Quinark EW must be the first product added to the spray tank water. See **Mixing and Loading Instructions** under the **PRODUCT INFORMATION** section of this label for specific mixing instructions. Refer to this and the other products' labels for mixing instructions, precautions, and restrictions. Follow the most restrictive instructions for each tank mix partner.

Precautions

Extreme caution must be taken during applications when desirable fruit, foliage and/or blooms are present in order to avoid spotting or necrosis. **DO NOT** allow **Quinark EW** spray mist to come in contact with green stem tissue, desirable fruit, blooms or foliage.

Newly planted caneberries must only be treated with shielded sprayers or hooded sprayers.

Corn (Field, Seed, Silage, Popcorn, Sweet Corn - Processing and Fresh Market)

Methods and Timing	PHI	Target Weeds	Rates	Restrictions
Preplant Burndown	N/A	Refer to Table 3	Apply up to 2.0 fl oz (0.031 pound active ingredient) per acre.	DO NOT apply more than 2.0 fl oz (0.031 pound active ingredient) per acre per application.
Post-emergence (Broadcast)	14 leaf collar	Refer to Table 3	Apply up to 1.0 fl oz (0.016 pound active ingredient) per acre.	DO NOT apply more than 2.0 fl oz (0.031 pound active ingredient) per acre per year including all preplant, in-crop, and harvest aid applications. DO NOT apply when conditions favor drift or when wind is above 10 miles per hour.
Post-emergence (Hooded Sprayer and Directed Applications)	14 leaf collar	Refer to Table 3	Apply up to 2.0 fl oz (0.031 pound active ingredient) per acre.	
Harvest Aid	DO NOT apply within 3 days of harvest.	Refer to Table 3	Apply 1.0 to 2.0 fl oz (0.016 to 0.031 pound active ingredient) per acre.	

DIRECTIONS FOR USE:**Post-emergence Weed Control Treatment**

Apply **Quinark EW** alone or as a tank mixture with other herbicides to emerged and actively growing weeds. Apply to corn in all tillage systems from prior to planting up to 14-leaf collar growth stage. When applying **Quinark EW** to corn greater than V8 stage, utilize drop nozzles aligned between the rows with directed application to reduce contact with the corn foliage and improve contact with the weeds. For optimum performance, make application to actively growing weeds up to 4 inches high and rosettes less than 3 inches across. **Coverage is essential for good control.**

(continued)

Corn (Field, Seed, Silage, Popcorn, Sweet Corn - Processing and Fresh Market)

DIRECTIONS FOR USE: *(continued)*

Adjuvant Requirements:

Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution). Under dry conditions, the use of a crop oil concentrate (COC) at 1.0% v/v may improve weed control. The use of crop oil concentrate can increase leaf speckling and crop response on treated corn leaves.

For specific mixing instructions, refer to the **Mixing and Loading Instructions** under the **PRODUCT INFORMATION** section.

Refer to the other product's label for restrictions on tank mixing, and observe all label precautions, instructions, and rotational cropping restrictions. Adjust sprayers to position spray tips no lower than 18 inches above the crop. Operate the sprayer to avoid the application of high herbicide rates directly over the rows and/or into the whorl of the corn plant. Overlaps and slower ground speeds (caused by continuing to spray while starting, stopping or turning) may result in higher application rates and possible crop response.

Broadcast Applications:

Use **Quinark EW** at 0.5 to 1.0 fl oz (0.008 to 0.16 pound active ingredient) per acre. Use higher rates when weeds are under stress or are larger.

Applications shall be made by ground equipment using a minimum finished spray volume of 10 gallons of spray per acre or by air at a minimum finished spray volume of 3 gallons of spray per acre.

Refer to weed control list in **Table 3** for appropriate weed control information.

Tank Mix

Quinark EW may be tank mixed with other corn herbicides to control weeds not listed on this label. Read and follow all manufacturers' label directions for the companion herbicides. When tank mixing **Quinark EW** with other labeled corn herbicides, use adjuvants as directed by the tank mix partner's label. These may include nonionic surfactant, crop oil concentrate, 28% nitrogen, ammonium sulfate or combinations of these.

Quinark EW plus Atrazine

Quinark EW may be tank mixed at a rate of 0.5 fl oz (0.008 pound active ingredient) per acre with Atrazine 4L (16 fluid ounces per acre) or Atrazine 90DF (0.6 - 1.6 pounds per acre) to control the following weeds:

When used as directed, Quinark EW + atrazine will provide control of listed weeds up to 4 inches tall.

Amaranth, Palmer (not triazine resistant)	Copperleaf, hophornbeam	Mallow, Venice	Purslane, common
Amaranth, spiny	Croton, woolly	Morningglory spp.	Sesbania, hemp
Anoda, spurred	Devilsclaw	Nightshade, Eastern black	Thistle, Russian
Buckwheat, wild	Evening primrose, cutleaf	Nightshade, hairy	Velvetleaf
Buffalobur	Jimsonweed	Pigweed, redroot	Waterhemp, common
Carpetweed	Kochia*	Pigweed, smooth	Waterhemp, tall
Cocklebur	Lambsquarters, common	Potato, volunteer	Sesbania, hemp

*Kochia control up to 2 inches tall with **Quinark EW** + Atrazine + COC only. Refer to the Atrazine labels for additional weed listings and for higher use rates.

Quinark EW plus Dicamba

Quinark EW at 0.5 fl oz (0.008 pound active ingredient) per acre plus 0.25% v/v nonionic surfactant (2 pints per 100 gallons) can be tank mixed with dicamba herbicides (8 - 16 fluid ounces per acre) for control of broadleaf weeds including the following:

When used as directed, Quinark EW + dicamba will provide control of listed weeds up to 4 inches tall.

Buckwheat, wild	Morningglory, spp.	Potato, volunteer	Thistle, Russian
Cocklebur, common	Nightshade, black	Ragweed, common	Velvetleaf
Jimsonweed	Pigweed, redroot	Ragweed, giant	Waterhemp, common
Kochia	Pigweed, smooth	Smartweed, PA (seedling)	Waterhemp, tall
Lambsquarters	Pigweed, triazine resistant	Sunflower, common	

Refer to the dicamba labels for additional weed listings and for higher use rates. Refer to the **TANK MIXTURE** section for information on potential leaf injury.

(continued)

Corn (Field, Seed, Silage, Popcorn, Sweet Corn - Processing and Fresh Market)

DIRECTIONS FOR USE: *(continued)*

Quinark EW Plus Atrazine Plus Dicamba or 2,4-D

For the control of additional or certain larger weeds up to 6 inches tall, Atrazine may be added to the tank mixtures of **Quinark EW** plus dicamba or **Quinark EW** plus 2,4-D (amine). Add 2,4-D (amine) to the tank mix at 0.125 to 0.25 pound active ingredient per acre or dicamba at 3 to 8 fluid ounces per acre. Higher rates of atrazine and dicamba herbicides are allowed, but **DO NOT** exceed the specific label use rates allowed by these labels. Add a 0.25% v/v nonionic surfactant (2 pints per 100 gallons) to the tank mixture. Under very dry soil moisture conditions, the use of crop oil concentrate at 1% v/v (1 gallon per 100 gallon spray solution) may improve weed control. The use of crop oil concentrate may increase leaf speckling. Refer to the **TANK MIXTURE** section for information on potential leaf injury.

For control of the following weeds up to 6 inches in height, or as specified, add dicamba at 3 to 8 ounces per acre to Quinark EW tank mixes with atrazine or to Quinark EW tank mixes with other products that allow the use of dicamba on their labels.

Amaranth, Palmer (up to 4 inches)	Morningglory spp.	Pigweed, smooth	Sunflower, common (up to 4 inches tall)
Amaranth, Spiny (up to 4 inches)	Nightshade, Eastern black	Ragweed, common	Velvetleaf (up to 24 inches)
Cocklebur, common	Nightshade, hairy	Ragweed, giant (up to 4 inches tall)	Waterhemp, common
Kochia (up to 4 inches tall)	Pigweed, redroot	Smartweeds, annual (seedling)	Waterhemp, tall
Lambsquarters, common			

Directed Spray Applications:

Apply **Quinark EW** with drop nozzles between the rows to the target weeds and away from the whorl of the corn plant. Directed spray applications must be used when corn is V8 to V14 stage. Apply **Quinark EW** up to 2.0 fl oz (0.031 pound active ingredient) per acre. Be aware that weeds growing in and under the dense canopies may not receive adequate spray coverage and may require the use of higher spray volumes for acceptable control. Use appropriate rates of adjuvants including nonionic surfactant (NIS), crop oil concentrate (COC), or methylated seed oil (MSO).

Hooded Sprayer Applications:

Apply **Quinark EW** with hooded sprayers to control labeled weeds between the rows of the crop. Refer to the **Hooded Sprayer Applications** section of this label for additional specific use directions.

Harvest Aid:

Apply 1.0 to 2 fl oz **Quinark EW** per acre, but not to exceed maximum labeled rates. Refer to the **Maximum Allowable Quinark EW Use Rate** and the **PREHARVEST INTERVAL (Table 2)** for additional application information. If treatments of **Quinark EW** have been made to the crop earlier, that volume must be considered in determining the maximum use rate as a harvest aid treatment. Applications shall be made in spray volumes sufficient to provide complete coverage of foliage. Use a minimum of 15 gallons of finished spray per acre for ground application and 5 gallons per acre for aerial application. A methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use methylated seed oil, or crop oil concentrate (COC) (petroleum or seed oil) at 1 to 2% v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4% v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the methylated seed oil or crop oil is allowed.

Coverage is essential for satisfactory performance.

Seed Corn Production:

For seed production fields, apply **Quinark EW** using drop nozzles or other equipment to make a directed spray treatment. Avoid directing spray solution into the whorl.

Seed corn inbred lines have generally shown good tolerance to **Quinark EW**. However, all inbred lines have not been tested. Broadcast applications may result in spray being concentrated into the whorl of the plant that will increase leaf response. To minimize application into the whorl of the plants, drop nozzles or other types of directed sprayers must be used to direct the spray to the targeted weeds.

Sweet Corn Precaution:

When applying **Quinark EW** to sweet corn, broadcast applications may result in spray being concentrated into the whorl of the plant that will increase leaf response. To minimize application into the whorl of the plants, drop nozzles or other types of directed sprayers must be used to direct the spray to the targeted weeds.

Use only NIS as the spray adjuvant in sweet corn applications.

Application Precautions:

Leaf speckling can occur when **Quinark EW** is used with certain crop protection products and adjuvants. Refer to the **TANK MIXTURES** and **ADJUVANTS USE REQUIREMENTS** sections under **PRODUCT INFORMATION**. Bromoxynil mixtures and bentazon mixtures may cause significant crop response when in contact with crop foliage.

Crop Response

The application of **Quinark EW** to corn may result in temporary crop response including speckling or necrosis of the leaves. Grain yields will not be affected. **DO NOT** make applications when air temperatures are abnormally cool or humidity is high or if the corn foliage is wet from dew, rainfall or irrigation. Users must be aware of these inherent risks and accept these risks prior to application of **Quinark EW**.

For additional information regarding potential crop response, refer to the **PRODUCT INFORMATION** section of this **Quinark EW** label.

Cotton:

Methods and Timing	PHI	Target Weeds	Rates	Restrictions
Removal of Failed Cotton Stands	DO NOT apply within 7 days of harvest.	Failed Cotton (up to 3 leaf cotton)	Apply 1.0 to 1.6 fl oz (0.016 - 0.025 pounds active ingredient) per acre.	DO NOT apply when conditions favor drift or when wind is above 10 mph.
Preplant Burndown	DO NOT apply within 7 days of harvest.	Refer to Table 3	Apply up to 1.6 fl oz (0.025 pounds active ingredient) per acre.	DO NOT apply more than 1.6 fl oz (0.025 pound active ingredient) per acre per application.
Hooded Sprayer	DO NOT apply within 7 days of harvest.	Refer to Table 3	Apply up to 1.6 fl oz (0.025 pounds active ingredient) per acre.	DO NOT apply more than 7.9 fl oz (0.124 pound active ingredient) per acre total for preplant, in-season weed control and harvest aid.
Post-directed and Lay-by	DO NOT apply within 7 days of harvest.	Refer to Table 3	Apply up to 1.6 fl oz (0.025 pounds active ingredient) per acre.	DO NOT apply more than 3.2 fl oz (0.05 pound active ingredient) per acre total for managed maturity and/or as a harvest aid.
Managed Maturity	DO NOT apply within 7 days of harvest.	Manage unproductive terminal growth in cotton.	Apply 0.25 to 0.5 fl oz (0.004 - 0.008 pounds active ingredient) per acre.	
Defoliation/ Harvest Aid	DO NOT apply within 7 days of harvest.	Defoliate and desiccate cotton and troublesome weeds.	Apply up to 1.6 fl oz (0.025 pounds active ingredient) per acre.	

DIRECTIONS FOR USE:

Removal of Failed Cotton Stands

Apply 1.0 to 1.6 fl oz **Quinark EW** (0.016 to 0.025 pound active ingredient) per acre broadcast as a foliar spray over the top of the remaining cotton plants with sufficient spray volume to provide adequate coverage of the cotton plant, particularly the terminal area. Use higher rates on larger failed cotton. For best results **DO NOT** exceed 3 leaf cotton. **Coverage is essential for good control.**

PREPLANT BURNDOWN

See instructions under the **PREPLANT BURNDOWN** section of this label.

Hooded Sprayer Applications

Apply **Quinark EW** with hooded sprayers to control labeled weeds between the rows of the crop. Refer to the **Hooded Sprayer Applications** section of this label for additional specific use directions.

Post-directed and Lay-by Applications

Quinark EW is a contact herbicide for post-emergence directed sprayer or hooded/shielded sprayer applications for the control of broadleaf weeds in cotton. Apply **Quinark EW** alone or as a tank mixture with other herbicides to emerged and actively growing weeds. For specific mixing instructions, refer to the **Mixing and Loading Instructions** under the **PRODUCT INFORMATION** section. Applications of **Quinark EW** or **Quinark EW** tank mixes must be made with directed sprayers or hooded sprayers to prevent contact of spray solution with the cotton plant. **DO NOT** allow spray solution to contact cotton foliage, green stem tissue, or blooms. Directed spray equipment must position nozzles a minimum 3 to 4 inches above the soil, with nozzles directed beneath the crop canopy. **Quinark EW** or **Quinark EW** tank mix applications shall be made to cotton that is a minimum of 6 inches in height. Applications to cotton at 5 to 6 nodes or less must be made with hooded or shielded sprayer equipment to completely avoid contact with cotton plants. Apply lay-by applications of **Quinark EW** or **Quinark EW** tank mixtures at later growth stages of cotton when cotton plants have achieved a height of 12 inches or more with sufficient bark development and height differential between crop bottom leaves and the soil. Spray solution shall be directed at the base of cotton plants for minimal contact with green stem tissue or foliage while maintaining maximum contact with broadleaf weeds that are at appropriate treatment size.

DO NOT apply when conditions favoring drift exist or wind is above 10 miles per hour.

For optimum performance, make application to actively growing weeds up to 4 inches tall and rosettes less than 3 inches across. **Coverage is essential for good control.**

Adjuvant

A nonionic surfactant (NIS), methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient, or a methylated seed oil, or crop oil concentrate (COC) (petroleum or seed oil) at 1 to 2% v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4% v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the nonionic surfactant methylated seed oil or crop oil is allowed.

(continued)

Cotton:

DIRECTIONS FOR USE: *(continued)*

Quinark EW Use Rates and Weeds Controlled

Apply up to 1.6 fl oz (0.025 lb ai/A) **Quinark EW** as a post-directed treatment using a directed sprayer a hooded sprayer or lay-by sprayer delivering a minimum finished spray volume of 10 gallons per acre. **DO NOT** apply more than 3.2 fl oz (0.05 lb ai) **Quinark EW** per season by post-directed and lay-by applications. Refer to weed control list in **Table 3** for appropriate weed control information.

For control of additional broadleaf weeds and grasses, **Quinark EW** may be tank mixed with other herbicides registered for cotton post-directed and/or lay-by applications. Refer to the other product's label for restrictions on tank mixing, and observe all label precautions, instructions and rotational cropping restrictions.

Managed Maturity Application for Cotton

Apply **Quinark EW** as an aid to remove undesirable top growth and reduce unproductive terminal growth. Use alone or as a tank mixture with other cotton insecticides and herbicides. Read all product labels and follow all directions and precautions when tank mixing with this product.

Timing

Apply **Quinark EW** when cotton is actively growing and the plants have 1% to 20% open bolls; with applications at 15% open bolls being optimum. When using the Cotman monitoring program, apply **Quinark EW** at NAWF5, plus 450 - 650 heat units. Avoid Managed Maturity treatments to fields, or areas of fields, that are stressed.

Quinark EW Use Rates - Managed Maturity

Apply **Quinark EW** as a broadcast spray at 0.25 fl oz per acre (0.004 lb ai per acre) to 0.5 fl oz per acre (0.008 lb ai per acre), targeting 0.375 fl oz per acre (0.006 lb ai per acre) in spray volume adequate to obtain upper canopy coverage of the plant foliage. In situations of extremely lush growth, apply up to 0.5 fl oz per acre (0.008 lb ai per acre). Make applications using a minimum of 10 gallons of finished spray per acre for ground application and a minimum of 5 gallons per acre by air. Good upper canopy coverage is essential for optimum performance. Use a quality crop oil concentrate (COC) at the specified rate of 1% v/v.

Defoliation/Harvest Aid Application

Apply **Quinark EW** as a harvest aid to defoliate and desiccate cotton and troublesome weeds that may be present at harvest. Apply **Quinark EW** alone or as a tank mixture with other cotton harvest aids.

Use a quality spray adjuvant e.g. nonionic surfactant (NIS) or crop oil concentrate (COC) at the specified rates. NIS is the specified adjuvant during warmer periods with COC being the better choice for applications during cooler periods. Make application when 60 to 70 percent of the bolls are open, or according to the State Agricultural Extension Service guidelines in the use area.

Apply up to 1.6 fl oz **Quinark EW** (up to 0.025 lb ai per acre) in spray volume sufficient to provide complete coverage of cotton foliage. Use a minimum of 10 gallons of finished spray per acre for ground application and 5 gallons per acre for aerial application. **Coverage is essential for good defoliation.** Repeat application if necessary to remove remaining foliage or control regrowth. **DO NOT** apply more than 3.2 fl oz (0.05 pound active ingredient) per acre total as a harvest aid. Dense cotton canopy, large plant size, and environmental conditions not conducive to complete plant coverage may reduce initial application performance and increase the need for a second application.

Apply **Quinark EW** alone, as a tank mix, or as a sequential application alone or tank mixed with other registered cotton harvest aid products.

Refer to the other product's label for restrictions on tank mixing, and observe all label precautions, instructions and rotational cropping restrictions.

Dried shelled beans, peas (Crop Subgroup 6-C, except soybean), Flax and vegetable foliage of legume vegetables (Crop Group 7)

Crop Group	PHI	Target Weeds	Rates	Restrictions
Preplant Burndown	N/A	Refer to Table 3	Apply up to 2.0 fl oz (0.031 pound active ingredient) per acre.	DO NOT apply more than 2.0 fl oz (0.031 pound active ingredient) per acre per application for preplant burndown.
Harvest Aid Applications	Can be applied up to 0 days before harvest.	Refer to Table 3	Apply 1.0 to 6.1 fl oz (0.016 to 0.096 pound active ingredient) per acre.	DO NOT apply more than 6.1 fl oz (0.096 pound active ingredient) per acre per year.

DIRECTIONS FOR USE:

Preplant Burndown:

Refer to the **PREPLANT BURNDOWN** section of this label.

Harvest Aid Treatment:

Apply **Quinark EW** as a harvest aid to dry beans and dry peas at maturity when 80 to 90% of seed pods are yellow or buck-skin in color and only 30% of green leaves remain on the plant. Apply to flax when 75% of the bolls have turned brown. Thorough coverage is essential for harvest aid and multiple applications may be needed. For optimum performance use 15 to 30 gallons per acre finished sprayed with a methylated seed oil (MSO) type adjuvant to ensure thorough coverage and retention for harvest aid.

(continued)

Dried shelled beans, peas (Crop Subgroup 6-C, except soybean), Flax and vegetable foliage of legume vegetables (Crop Group 7)

DIRECTIONS FOR USE: (continued)

Quinark EW Use Rates:

Apply **Quinark EW** alone or as a tank mixture with other harvest aids. Apply **Quinark EW** at 1.0 to 6.1 fl oz (0.016 to 0.096 pounds active ingredient) per acre, but not to exceed maximum labeled rates. Refer to the **Maximum Allowable Quinark EW Use Rate** chart and the **PREHARVEST INTERVAL** charts for additional application information.

Applications shall be made in spray volumes sufficient to provide complete coverage of foliage. Use a minimum of 15 gallons of finished spray per acre for ground application and 5 gallons per acre for aerial application. A methylated seed oil (MSO) or crop oil concentrate (COC) is required at 1 to 2% v/v (1 to 2 gallons per 100 gallons of spray solution). The addition of a high quality sprayable liquid nitrogen fertilizer at 2 to 4% v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the methylated seed oil or crop oil may enhance performance. If spraying dry beans before full maturity and pods are not all mature and turning color, a repeat application may be necessary.

Note

If applied as a tank mixture, refer to the other product's label for restrictions on tank mixing, and observe all label precautions, instructions and rotational cropping restrictions.

FALLOW SYSTEMS

Crop Group	PHI	Target Weeds	Rates	Restrictions
Emerged Weed Control	N/A	Refer to Table 3	Apply up to 2.0 fl oz (0.031 pound active ingredient) per acre.	For crop planting information following fallow treatments, refer to the preplant burndown for planting interval instructions.

DIRECTIONS FOR USE:

Apply **Quinark EW** by ground or air alone or with other herbicides in the fallow period prior to planting or the emergence of any crop listed on this label to control or suppress weeds. For optimum performance, make applications to actively growing weeds up to 4 inches high or rosettes less than 3 inches across. **Coverage is essential for good weed control.**

Quinark EW may be utilized in Fallow Cropping Systems for chemical weed control to aid in moisture conservation between cropping periods.

Adjuvant Requirements

A nonionic surfactant, crop oil concentrate or methylated seed oil is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient or a petroleum or oil-seed based crop oil concentrate (COC) at 1.0 to 2% v/v (1.0 to 2.0 gallons per 100 gallons of spray solution) or a methylated seed oil (MSO). A high quality sprayable liquid nitrogen fertilizer at 2 to 4% v/v (2 to 4 gallons per 100 gallons) or ammonium sulfate at 2 to 4 pounds per acre in addition to the selected NIS, MSO or COC is allowed.

Optimum broad-spectrum control of annual and perennial weeds requires a tank mix with a broad-spectrum burndown herbicide including glyphosate, glufosinate or paraquat. Refer to **Table 3** for proper use rate for weed spectrum. For specific mixing instructions, refer to the **Mixing and Loading Instructions** under the **PRODUCT INFORMATION** section.

Tank Mix

For all products used in tank mixes, refer to the specific product labels for all restrictions on tank mixing and observe all label precautions, instructions and rotational cropping restrictions.

Fruit, small vine climbing - except fuzzy kiwifruit, subgroup 13-07F

Methods and Timing	PHI	Target Weeds	Rates	Restrictions
Post-emerge Weed Control	DO NOT apply within 3 days of harvest.	Refer to Table 3	Apply up to 2.0 fl oz (0.031 pound active ingredient) per acre.	DO NOT apply more than 2.0 fl oz (0.031 pound active ingredient) per acre per application (including preplant site preparation treatments). DO NOT apply more than 7.9 fl oz (0.124 pound active ingredient) per acre per year. DO NOT make applications less than 14 days apart.

(continued)

Fruit, small vine climbing - except fuzzy kiwifruit, subgroup 13-07F

DIRECTIONS FOR USE:

Quinark EW may be applied for post-emergence weed control or for sucker control.

Weed Control

Apply **Quinark EW** alone or as a tank mixture with other herbicides as a post-emergence directed spray treatment or as a hooded spray treatment to control emerged and actively growing weeds. Apply **Quinark EW** at up to 2.0 fl oz (0.031 pound active ingredient) per acre. Apply **Quinark EW** to middles (between rows of plants) and in strips (in row of plants). Refer to weed control list in **Table 3** for appropriate weed control information.

Apply **Quinark EW** at any time during the season (see **Precautions**). **Quinark EW** may be mixed with other herbicides that have pre-emergence or post-emergence activity. Any pre-emergence activity must rely on activity from other herbicides as directed on their labels.

Herbicides including glyphosate may be tank mixed with **Quinark EW** for broader spectrum weed control. If **Quinark EW** is used in a tank mixture, observe the other product's label for restrictions, precautions and rotational cropping instructions.

Sucker Management

Quinark EW is effective as an aid in the management of undesirable sucker growth from the base of vine trunks or root sprouts. Apply **Quinark EW** at 2.0 fl oz (0.031 pound active ingredient) per acre. Suckers and other undesirable growth must be treated when the tissue is young and not mature and/or hardened off. Care must be taken not to allow spray mist to contact desirable fruit or foliage or green stem tissue (see **Precautions**). Application of **Quinark EW** with other sucker control herbicides is allowed.

Hooded Sprayer Applications

Apply **Quinark EW** with hooded sprayers to control labeled weeds between the rows of the crop. Refer to the **Hooded Sprayer Applications** section of this label for additional specific use directions.

Equipment and Application

Coverage is essential for good control. Use a spray volume adequate to obtain thorough coverage with a minimum of 10 gallons of finished spray per acre. Apply only with ground equipment. Apply **Quinark EW** with hooded sprayers, boom equipment, shielded sprayers, hand-held and high-volume wands or orchard guns. Always add **Quinark EW** to the spray tank first. See **Mixing and Loading Instructions** under **PRODUCT INFORMATION**.

Adjuvant Requirements

Control is enhanced with the addition of a nonionic surfactant (NIS) or crop oil concentrate (COC). Use a quality nonionic surfactant (NIS) containing at least 80% active at 0.25% v/v (2 pints NIS per 100 gallons) or a crop oil concentrate (COC) at 1% v/v (one gallon COC per 100 gallons), or a methylated seed oil (MSO). The use of a high quality sprayable liquid nitrogen fertilizer at 2 to 4% v/v or ammonium sulfate (AMS) used at 2 to 4 pounds per acre in addition to the NIS, or MSO or COC is allowed.

Application Precautions: Extreme caution must be used during applications when desirable fruit or foliage is present in order to avoid fruit spotting or leaf necrosis.

DO NOT allow **Quinark EW** spray mist to come in contact with desirable fruit, green stem tissue, foliage or blooms.

DO NOT use on seedling or newly transplanted vines. **DO NOT** allow spray to contact green bark of trunk area.

Fruit Tree, Tree Nut and Other Crops

Crop Group	PHI	Target Weeds	Rates	Restrictions
Citrus Fruits: including Calamondin, Citrus Citron, Chironja, Tangelo, Tangor, Grapefruit, Kumquat, Lemon, Lime, Mandarin (Tangerine), Orange (sour), Orange (Sweet), Pummelo, Satsuma Mandarin	DO NOT apply within 3 days of harvest.	Refer to Table 3	Apply up to 2 fl oz/A (0.031 pound active ingredient) per acre.	DO NOT make applications with air-blast sprayers. DO NOT make applications less than 14 days apart. DO NOT apply more than 2.0 fl oz (0.031 pound active ingredient) per acre per application. DO NOT apply more than 7.9 fl oz (0.124 pound active ingredient) per acre per year, including preplant site preparation.
Pome Fruits: including Apple, Crabapple, Loquat, Mayhaw, Pear, Pear (Oriental) and Quince	DO NOT apply within 3 days of harvest.	Refer to Table 3	Apply up to 2.0 fl oz/A (0.031 pound active ingredient) per acre.	DO NOT make applications with air-blast sprayers. DO NOT make applications less than 14 days apart. DO NOT apply more than 2.0 fl oz (0.031 pound active ingredient) per acre per application. DO NOT apply more than 7.9 fl oz (0.124 pound active ingredient) per acre per year, including preplant site preparation.

(continued)

Fruit Tree, Tree Nut and Other Crops *(continued)*

Crop Group	PHI	Target Weeds	Rates	Restrictions
Stone Fruits: including Apricot, Cherry (Sweet), Cherry (Tart), Nectarine, Peach, Plum, Plum (Chickasaw), Plum (Damson), Plum (Japanese), Prune and Plumcot	DO NOT apply within 3 days of harvest.	Refer to Table 3	Apply up to 2.0 fl oz/A (0.031 pound active ingredient) per acre.	DO NOT make applications with air-blast sprayers. DO NOT make applications less than 14 days apart. DO NOT apply more than 2.0 fl oz (0.031 pound active ingredient) per acre per application. DO NOT apply more than 7.9 fl oz (0.124 pound active ingredient) per acre per year, including preplant site preparation.
Tree Nuts: including Almond, Beech Nut, Brazil Nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (Hazelnut), Hickory Nut, Macadamia Nut (Bush Nut), Pecan, Pistachio and Walnut (Black and English)	DO NOT apply within 3 days of harvest.	Refer to Table 3	Apply up to 2.0 fl oz/A (0.031 pound active ingredient) per acre.	DO NOT make applications with air-blast sprayers. DO NOT make applications less than 14 days apart. DO NOT apply more than 2.0 fl oz (0.031 pound active ingredient) per acre per application. DO NOT apply more than 7.9 fl oz (0.124 pound active ingredient) per acre per year, including preplant site preparation.
Tropical Fruit: including Papaya, Avocado, Black Sapote, Canistel, Mamey Sapote, Mango, Sapodilla, Star apple, Guava, Feijoa, Jaboticaba, Wax jambu, Starfruit, Passionfruit, Acerola, Lychee, Longan, Spanish lime, Rambutan, Pulasan, Sugar apple, Atemoya, Custard apple, Cherimoya, Llama, Soursop, and Biriba	Can be applied up to harvest.	Refer to Table 3	Apply up to 2.0 fl oz/A (0.031 pound active ingredient) per acre.	DO NOT make applications with air-blast sprayers. DO NOT make applications less than 14 days apart. DO NOT apply more than 2 fl oz (0.031 pound active ingredient) per acre in a single application. DO NOT apply more than 6.1 fl oz (0.096 pound active ingredient) per acre per year, including preplant site preparation.
Other Crops: including Banana, Cacao, Coconut, Coffee, Date, Fig, Guayule, Indian Mulberry, Olive, Palm Heart, Persimmon, Pomegranate, Tea, and Vanilla	DO NOT apply within 3 days of harvest.	Refer to Table 3	Apply up to 2.0 fl oz/A (0.031 pound active ingredient) per acre.	DO NOT make applications with air-blast sprayers. DO NOT make applications less than 14 days apart. DO NOT apply more than 2.0 fl oz (0.031 pound active ingredient) per acre per application. DO NOT apply more than 7.9 fl oz (0.124 pound active ingredient) per acre per year, including preplant site preparation.

DIRECTIONS FOR USE:

PRODUCTION SYSTEMS

Different production systems dictate different application techniques. Skirted trees are those allowing the lower branches of the trees to grow to the ground line. Non-skirted trees are grown in production systems where branches are pruned allowing access to the trunk area.

Equipment and Application

Skirted Orchards and Groves

Hooded sprayers are required for **Quinark EW** applications in skirted trees. Refer to the **Hooded Sprayer Applications** section of this label.

Non-Skirted Orchards and Groves

Apply only by ground equipment including boom sprayers, shielded or hooded sprayers, hand-held or high-volume wands or orchard guns. Use a minimum of 20 gallons finished spray solution per broadcast acre.

Weed Control

Apply **Quinark EW** alone or as a tank mix with other registered herbicides to actively growing weeds. **Quinark EW** is a contact herbicide and coverage is essential for good weed control. Use a minimum of 20 gallons finished spray solution per broadcast acre.

DO NOT allow **Quinark EW** spray solution to contact green stem tissue, leaves, fruit or blooms of trees.

(continued)

Fruit Tree, Tree Nut and Other Crops

DIRECTIONS FOR USE: (continued)

Quinark EW Application Rates

Apply **Quinark EW** up to 2 fl oz (0.031 pound active ingredient) per acre for post-emergence control of susceptible broadleaf weeds. Refer to weed control list in **Table 3** for appropriate weed control information. For best control, apply to seedling weeds in the 2 to 3-leaf stage. For larger weeds up to 6 leaves, use higher labeled rates of **Quinark EW**. Weeds greater than 6 leaves may be only partially controlled.

Adjuvant Requirements

Control is enhanced with the addition of a nonionic surfactant (NIS) or crop oil concentrate (COC). Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints NIS per 100 gallons) or a crop oil concentrate at 1% v/v (one gallon COC per 100 gallons). **Quinark EW** may also be applied with labeled rates of MSO or silicone adjuvants.

Quinark EW may be mixed with other herbicides that have pre-emergence or post-emergence activity. **Quinark EW** only controls emerged vegetation. Any pre-emergence activity must rely on activity from registered pre-emergence herbicides mixed with **Quinark EW**. Contact herbicides e.g. glyphosate, glufosinate, and paraquat may be tank mixed with **Quinark EW** for broader spectrum weed control. See **Mixing and Loading Instructions** under the **PRODUCT INFORMATION** section of this label for specific mixing instructions. Refer to this and the other product's labels for mixing instructions, precautions, and restrictions. Follow the most restrictive instructions for each tank mix partner.

Sucker Management

Quinark EW is effective as an aid in the management of undesirable sucker growth from the base of the trunks or root sprouts. Apply **Quinark EW** at 2 fl oz (0.031 pound active ingredient) per acre. Suckers and other undesirable growth must be treated when the tissue is young and not mature and/or hardened off. Care must be taken not to allow spray mist to contact desirable fruit, foliage or green stem tissue (see **Precautions**).

Chemical Mowing

Apply **Quinark EW** alone or in tank mixtures with other herbicides in chemical mowing practices for orchard vegetation management.

Hooded Sprayer Application

Apply **Quinark EW** with hooded sprayers to control labeled weeds between the rows of the crop. Refer to the **Hooded Sprayer Applications** section of this label for additional specific use directions.

Precautions

Extreme caution must be used during applications when desirable fruit and/or foliage are present in order to avoid fruit spotting and/or leaf necrosis. **DO NOT** allow spray mist of **Quinark EW** to come in contact with green stem tissue, foliage, blooms or desirable fruit.

On seedling or newly transplanted trees **DO NOT** allow spray to contact green bark of trunk area. For new seedlings up to 2 year old trees, the trunk base must be wrapped to help prevent chemical contact with the bark.

Tank Mix

If **Quinark EW** is used in a tank mixture, observe the other product's label for restrictions, precautions, and rotational cropping instructions.

Grasses: (Forage, Fodder, Hay, Seed and Sod, Annual canarygrass, foxtail millet)

Methods and Timing	PHI	Target Weeds	Rates	Restrictions
Post-emerge Weed Control	When Quinark EW is applied alone, grazing and hay operations may proceed with no restrictions.	Refer to Table 3	Apply up to 2.0 fl oz (0.031 pound active ingredient) per acre.	DO NOT make applications less than 7 days apart. DO NOT apply more than 2.0 fl oz (0.031 pound active ingredient) per acre per application. DO NOT apply more than 5.9 fl oz (0.093 pound active ingredient) per acre per year. DO NOT make more than three applications per year.

DIRECTIONS FOR USE:

Apply **Quinark EW** alone or in combination with other registered pesticides for the control of weeds in rangeland, pastures, hay, grasses grown for hay or silage and grass seed production and grass grown in Conservation Reserve Programs (CRP). Note that CRP usage must be in compliance with Federal, State, and local use guidelines.

Apply **Quinark EW** at use rates up to 2.0 fl oz (0.031 pound active ingredient) per broadcast acre. For optimum results, weeds must be treated when small. Applications shall be made with ground equipment delivering a minimum of 10 gallons of finished spray per acre or aerial delivering a minimum of 3 gal/acre of finished spray. Adjust sprayers to provide optimum coverage of the target weeds. Refer to weed control list in **Table 3** for appropriate weed control information.

(continued)

Grasses: (Forage, Fodder, Hay, Seed and Sod, Annual canarygrass, foxtail millet)

DIRECTIONS FOR USE: (continued)

Adjuvant Requirements

Control is enhanced with the addition of a nonionic surfactant (NIS) or crop oil concentrate (COC). Use a quality nonionic surfactant (NIS) containing at least 80% active at 0.25% v/v (2 pints NIS per 100 gallons) or a crop oil concentrate (COC) at 1% v/v (one gallon COC per 100 gallons), or a methylated seed oil (MSO). The use of a high quality sprayable liquid nitrogen fertilizer at 2 to 4% v/v or ammonium sulfate (AMS) used at 2 to 4 pounds per acre in addition to the NIS, or MSO or COC is allowed.

When **Quinark EW** is applied alone, grazing and hay operations may proceed with no restrictions.

Quinark EW may be tank mixed with other labeled herbicides to control weeds not listed on this label. Read and follow all manufacturers' label directions for the companion herbicide.

For tank mixture applications, refer to the use directions and restrictions of the mixture product.

HOPS

Methods and Timing	PHI	Target Weeds	Rates	Restrictions
Post-directed for Sucker Management	DO NOT apply within 7 days of harvest.	Refer to Table 3	Apply 2.0 fl oz (0.031 pound active ingredient) per acre.	DO NOT apply Quinark EW using air blast or air assisted sprayers.
Post-emergence Weed Control	DO NOT apply within 7 days of harvest.	Refer to Table 3	Apply up to 2.0 fl oz (0.031 pound active ingredient) per acre.	DO NOT apply through any type of irrigation system. DO NOT apply more than 2.0 fl oz (0.031 pound active ingredient) per acre per application. DO NOT apply more than 7.6 fl oz (0.12 pound active ingredient) per acre per year. Allow a minimum of 14 days between treatments of Quinark EW .

DIRECTIONS FOR USE:

Post-directed Application for Sucker Management

Quinark EW is a contact herbicide for directed spray application to the basal portion of the hop plant for the management of sucker growth. Apply **Quinark EW** at 2.0 fl oz (0.031 pound active ingredient) per acre per application in a minimum of 20 gallons of spray solution by boom-type ground application equipment only to the basal portion of the hop plant (approximately the lower 1.5 feet) and to the sucker mat which extends from the base of the plant to approximately 1.5 to 2 feet into the row.

An alternate row treatment program may be followed to avoid the removal of excessive photosynthetic capacity from the crown area by treating alternate rows on different days. Applications timing and techniques may vary from region to region. Please consult local university extension personnel for local management practices.

Post-emergent Control of Broadleaf Weeds

Apply **Quinark EW** using shielded sprayers or hooded sprayers to control emerged and actively growing broadleaf weeds within or between the rows of the crop. Refer to **Table 3** for appropriate weed control information.

Adjuvant Requirements

Coverage is essential to obtain good basal growth management. Use a nonionic surfactant (NIS) having at least 80% active ingredient at 0.25% v/v (2 pints of NIS per 100 gallons of spray volume) or a quality crop oil concentrate (COC) at labeled rates.

If **Quinark EW** is used in a tank mixture, refer to the other product labels for all restrictions on tank mixing and observe all label precautions, instructions and rotational cropping restrictions.

For band treatment, apply the broadcast equivalent rate and volume per acre. To determine these:

Band Width (inches)	X	Broadcast Rate	=	Band Rate
Row Width (inches)		Per Acre		
Band Width (inches)	X	Broadcast Volume	=	Band Volume
Row Width (inches)		Per Acre		

Application Precautions

Extreme caution must be taken during application to avoid upward drift of the spray solution and contact with the highly susceptible new growth. Avoid applications until newly trained vines have developed sufficient barking to avoid damage to the stem and are high enough up the string to avoid contact with the apical bud.

LOW GROWING BERRY Subgroup 13-07G

Methods and Timing	PHI	Target Weeds	Rates	Restrictions
Post-emerge Weed Control	Can be applied up to harvest.	Refer to Table 3	Apply up to 2.0 fl oz (0.031 pound active ingredient) per acre.	DO NOT apply more than 2 fl oz (0.031 lb ai) during the dormant year. DO NOT apply more than 6.15 fl oz (0.096 pound active ingredient) per acre per year.

DIRECTIONS FOR USE:

Quinark EW applications will control susceptible emerged broadleaf weeds. Repeat applications may be necessary for weeds that emerge after an **Quinark EW** treatment.

Equipment and Application

Apply only by ground equipment including boom sprayers, shielded or hooded sprayers, hand-held or high-volume wands or orchard guns. Use a minimum of 20 gallons finished spray solution per broadcast acre.

Dormant Applications

Apply **Quinark EW** as a broadcast application to the base of the trunk to control emerged and actively growing weeds during the dormant stage of the crop.

Post-directed Applications for Broadleaf Weed Control

Apply **Quinark EW** as a directed spray avoiding contact with the berry plant but directed at actively growing weeds. **Quinark EW** is a contact herbicide and coverage is essential for good weed control. **DO NOT** allow **Quinark EW** spray mist to come in contact with green stem tissue, desirable fruit, blooms or foliage.

Newly planted bush berries must only be treated with shielded sprayers or hooded sprayers.

Quinark EW Use Rates

Apply up to 2 fl oz (0.031 pound active ingredient) **Quinark EW** per broadcast acre. For best control, apply to seedling weeds in the 2- to 3-leaf stage. Use higher labeled rates of **Quinark EW** for larger weeds up to 6 leaves. Weeds greater than 6 leaves may be only partially controlled. See **Table 3** for **Quinark EW** use rates and weeds controlled.

Adjuvant Requirements

A nonionic surfactant (NIS), methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient, or a methylated seed oil, or crop oil concentrate (COC) (petroleum or seed oil) at 1 to 2% v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4% v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the nonionic surfactant, methylated seed oil or crop oil is allowed.

Quinark EW may be mixed with other registered herbicides for broader spectrum weed control. When tank mixing with fertilizer solutions, be sure to prepare an **Quinark EW** premixture of **Quinark EW** and clean water.

See **Mixing and Loading Instructions** under the **PRODUCT INFORMATION** section of this label for specific mixing instructions. Refer to this and the other products' labels for mixing instructions, precautions, and restrictions. Follow the most restrictive instructions for each tank mix partner.

Precautions

Extreme caution must be taken during applications when desirable fruit, foliage and/or blooms are present in order to avoid spotting or necrosis. **DO NOT** allow **Quinark EW** spray mist to come in contact with green stem tissue, desirable fruit, blooms or foliage.

For seedling or newly transplanted bushes, **DO NOT** allow spray to contact green bark of trunk area. Use shielded sprayers only.

Band Treatment Application

For band treatment, apply the broadcast equivalent rate and volume per acre. To determine these:

Band Width (inches)	X	Broadcast Rate	=	Band Rate
Row Width (inches)		Per Acre		
Band Width (inches)	X	Broadcast Volume	=	Band Volume
Row Width (inches)		Per Acre		

MINT

Methods and Timing	PHI	Target Weeds	Rates	Restrictions
Broadcast	DO NOT apply within 5 days of harvest.	Refer to Table 3	Apply one application of Quinark EW at 0.5 to 1.92 fl oz (0.008 to 0.030 pound active ingredient) per acre. Use higher rates when weeds are under stress or are larger.	DO NOT apply to actively growing crop. DO NOT apply more than 1.92 fl oz (0.030 pound active ingredient) per acre per application. DO NOT apply more than 1.92 fl oz (0.030 pound active ingredient) per acre per year.

DIRECTIONS FOR USE:

Apply **Quinark EW** as a broadcast application before mint breaks dormancy for control of existing broadleaf weeds.

Coverage is essential for good control.

Adjuvant Requirements

Applications shall be made in spray volumes sufficient to provide complete coverage of foliage.

Use a minimum of 10 gallons of finished spray per acre for ground application and 5 gallons per acre for aerial application. A nonionic surfactant (NIS), methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient, or a methylated seed oil, or crop oil concentrate (COC) (petroleum or seed oil) at 1 to 2% v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4% v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the nonionic surfactant, methylated seed oil or crop oil is allowed. Repeat application if necessary.

For specific mixing instructions, refer to the **Mixing and Loading Instructions** under the **PRODUCT INFORMATION** section.

PEANUT

Methods and Timing	PHI	Target Weeds	Rates	Restrictions
Post-emerge Weed Control	DO NOT apply within 7 days of harvest.	Refer to Table 3	Apply up to 2.0 fl oz (0.031 pound active ingredient) per acre.	DO NOT apply more than 2.0 fl oz (0.031 pound active ingredient) per acre per year as a harvest aid treatment.
Harvest Aid	DO NOT apply within 7 days of harvest.	Refer to Table 3		DO NOT apply more than one harvest aid treatment per year. DO NOT apply more than 6.1 fl oz (0.096 pounds active ingredient) per acre per year. DO NOT feed immature peanut plant or peanut hay to livestock.

DIRECTIONS FOR USE:

Weed Control

Apply **Quinark EW** alone or as a tank mixture with other herbicides as a post-emergence treatment or as a hooded/directed spray treatment to control emerged and actively growing weeds. Apply hooded/directed applications of **Quinark EW** to middles (between rows of plants) and in strips (in row of plants). Apply **Quinark EW** at any time during the season (see **Precautions**). **Quinark EW** may be mixed with other herbicides that have pre-emergence or post-emergence activity. Any pre-emergence activity must rely on activity from other herbicides as directed on their labels. Herbicides including glyphosate may be tank mixed with **Quinark EW** for broader spectrum weed control. If **Quinark EW** is used in a tank mixture, observe the other product's label for restrictions, precautions and rotational cropping instructions.

Harvest Aid Application

Apply **Quinark EW** as a harvest aid to defoliate and desiccate troublesome weeds that may be present at harvest. Apply **Quinark EW** alone or as a tank mixture with other peanut harvest aids.

Adjuvant Requirements

Control is enhanced with the addition of a nonionic surfactant (NIS) or crop oil concentrate (COC). Use a quality nonionic surfactant (NIS) containing at least 80% active at 0.25% v/v (2 pints NIS per 100 gallons) or a crop oil concentrate (COC) at 1% v/v (one gallon COC per 100 gallons), or a methylated seed oil (MSO). The use of a high quality sprayable liquid nitrogen fertilizer at 2 to 4% v/v or ammonium sulfate (AMS) used at 2 to 4 pounds per acre in addition to the NIS, or MSO or COC is allowed.

Crop Rotation Restriction:

After an application of this product to peanuts, you may only rotate the field to a carfentrazone-ethyl registered crop.

SMALL GRAINS

Methods and Timing	PHI	Target Weeds	Rates	Restrictions
Preplant Burndown	N/A	Refer to Table 3	Apply up to 2.0 fl oz (0.031 pound active ingredient) per acre.	DO NOT apply more than 2.0 fl oz (0.031 pound active ingredient) per acre per application.
Post-emergence	Except Winter Wheat - jointing stage Winter Wheat - boot stage	Refer to Table 3	Apply 0.5 to 1.0 fl oz (0.008 to 0.016 pound active ingredient) per acre.	DO NOT apply more than 2.0 fl oz (0.031 pound active ingredient) per acre per year. DO NOT apply when conditions favor drift.
Harvest Aid Applications	DO NOT apply within 7 days of harvest.	Refer to Table 3	Apply up to 2.0 fl oz (0.031 pound active ingredient) per acre.	DO NOT harvest for forage within 7 days of application.

DIRECTIONS FOR USE:

Timing and Method of Application:

Quinark EW may be applied preplant (up to 1 day before seeding), post-emergence or as a harvest aid. For optimum performance, make application to actively growing weeds up to 4 inches tall and rosettes less than 3 inches across. For dense weed pressure, use the higher labeled application rate plus tank mix combinations. **Coverage is essential for good control.** Refer to **Table 3** for weeds controlled at labeled rates of **Quinark EW**. For broader spectrum weed control, **Quinark EW** may be tank mixed with other herbicides registered for use in small grains.

Preplant Burndown:

Refer to the **PREPLANT BURNDOWN** section of this label.

Post-emergence Application:

In-season application may be made from 4-inches tall to just prior to the boot stage.

Quinark EW Use Rate

Apply from 0.5 to 1.0 fl oz **Quinark EW** (0.008 - 0.016 pounds active ingredient) per acre. Use a minimum finished spray solution of 10 gallons per acre by ground or 3 gallons per acre by air. Up to half of the spray volume (by air or ground) may be liquid nitrogen fertilizer.

Adjuvant Requirements

Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient. The use of a high quality sprayable liquid nitrogen fertilizer (2 to 4% v/v or 2 to 4 gallons per 100 gallon spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the nonionic surfactant is allowed. **DO NOT** use **Quinark EW** with crop oil concentrates (COC), methylated seed oils (MSO) or silicone-based adjuvants for post-emergence applications.

Tank Mix

To control weeds not listed on this label, **Quinark EW** may be tank mixed with other registered herbicides.

For specific mixing instructions, refer to the **Mixing and Loading Instructions** in the **MIXING INFORMATION** section. Refer to the other product's label for restrictions on tank mixing, and observe all label precautions, instructions, and rotational cropping restrictions. Use aerial or ground equipment for **Quinark EW** applications. **Coverage is essential for good control.**

Applications shall be made by ground equipment using a minimum finished spray volume of 10 gallons of spray per acre. Applications made by air shall utilize a minimum finished spray volume of 3 gallons per acre. Up to half of the spray volume (by air or ground) may be liquid nitrogen fertilizer. Refer to **Table 3** for appropriate weed control information.

Quinark EW Plus 2,4-D (amine or ester) or MCPA (amine or ester)

Quinark EW may be tank mixed at a rate of 0.5 to 1.0 fl oz (0.008 - 0.016 pound active ingredient) per acre with 2,4-D (amine or ester) or MCPA (amine or ester) for use on small grains. For optimum results add 2,4-D (amine or ester) to the tank at 0.25 lb acid equivalent per acre or MCPA (amine or ester) at 0.375 lb acid equivalent per acre. Higher rates of these herbicides are allowed, but **DO NOT** exceed the label use rates allowed by these labels. Add nitrogen fertilizer (2 to 4% v/v) 2 to 4 gallons per 100 gallons or ammonium sulfate 4 lbs per acre) to the tank mixture.

When applied as directed, Quinark EW in tank mixtures with 2,4-D (amine or ester) or MCPA (amine or ester) herbicides will provide control of listed weeds up to 4 inches tall.

(continued)

SMALL GRAINS**DIRECTIONS FOR USE: (continued)**

When applied as directed, Quinark EW in tank mixtures with 2,4-D (amine or ester) or MCPA (amine or ester)

herbicides will provide control of listed weeds up to 4 inches tall.

Amaranthus spp.	Knotweed, prostrate*	Pennycress, field **	Rocket, London
Bedstraw, catchweed	Kochia	Pepperweed, greenflower**	Sowthistle, annual
Buckwheat, wild	Lambsquarters, common	Pigweed, prostrate	Speedwell, ivyleaf
Cocklebur	Lettuce, miners	Pigweed, redroot	Sunflower, wild
Croton, woolly	Lettuce, prickly	Pigweed, smooth	Tarweed, coast
Fiddleneck	Mustard, blue***	Primrose, cutleaf	Thistle, Russian
Filaree, redstem	Mustard, tansy***	Primrose, tumble	Wallflower, bushy
Flixweed**	Mustard, tumble**	Radish, wild	Waterhemp, tall
Gromwell, common	Mustard, wild**	Ragweed, common	
Groundsel, common	Nightshade, black	Ragweed, giant	

*For Knotweed control, use Quinark EW + 2,4-D (amine or ester) only.

**These weeds can be treated from the rosette through bolting growth stages.

***Apply to rosette growth stage (before bolting) of blue mustard.

Harvest Aid

Refer to the **Harvest Aid** section of this label for use directions.

SORGHUM: (Grown for Grain and Seed)

Methods and Timing	PHI	Target Weeds	Rates	Restrictions
Preplant Burndown	N/A	Refer to Table 3	Apply up to 1.0 fl oz (0.016 pounds active ingredient) per acre.	DO NOT make foliar broadcast applications to forage sorghum or sorghum grown for seed. DO NOT apply more than 1.0 fl oz (0.016 pounds active ingredient) per acre per application.
Foliar Broadcast Application (Grain Sorghum Only)	DO NOT apply past 14 leaf collar stage.	Refer to Table 3	Apply up to 0.5 fl oz (0.008 pounds active ingredient) per acre.	DO NOT apply more than 1.0 fl oz (0.016 pound active ingredient) per acre per year including fallow, preplant burndown and labeled applications to the growing crop (not including Harvest Aid treatments). See Table 1 .
Directed or Shielded Spray Applications	DO NOT apply past pre-boot stage (forage) 14 collar (Grain).	Refer to Table 3	Apply up to 1.0 fl oz (0.016 pounds active ingredient) per acre.	
Harvest Aid	DO NOT apply within 3 days of harvest.	Desiccate troublesome broadleaf weeds e.g. morningglories, pigweeds and velvetleaf.	Apply up to 1.0 fl oz (0.016 pounds active ingredient) per acre.	DO NOT apply more than 1.0 fl oz (0.016 pound active ingredient) per acre per year as a Harvest Aid treatment. See Table 1 .

DIRECTIONS FOR USE:

Quinark EW may be applied to grain and forage sorghum as a preplant burndown; a hooded or shielded spray; and a post-directed spray. In addition to these applications methods, Quinark EW may be applied to grain sorghum (sorghum grown for grain but not for seed production) as a foliar broadcast and harvest aid treatment. See **Table 1** for **Maximum Seasonal Quinark EW Use Rate** and **Table 3** for weeds controlled at labeled rates of Quinark EW on sorghum.

PREPLANT BURNDOWN

See instructions under the **PREPLANT BURNDOWN** section of this label.

(continued)

SORGHUM: (Grown for Grain and Seed)

DIRECTIONS FOR USE: (continued)

FOLIAR BROADCAST (Grain Sorghum Only)

Apply to grain sorghum from 4 inches tall to just prior to the boot stage. **Quinark EW** may be applied alone or as a tank mixture with other herbicides labeled for use on sorghum. Broadcast applications of **Quinark EW** to sorghum with wet foliage or application during periods of adverse environmental conditions including cool, cloudy, wet, or high humidity may cause increased crop response. Directed sprays are suggested under these conditions. For additional information on crop response, refer to the **PRODUCT INFORMATION** section of the **Quinark EW** label.

Quinark EW Use Rates - Foliar Grain Only

DO NOT exceed 0.5 fl oz (0.008 pound active ingredient) **Quinark EW** per acre. See **Table 3** for weeds controlled at 0.5 fl oz of **Quinark EW**. Rates below 0.5 fl oz may not fully control weeds.

Adjuvant Requirements - Foliar Grain Only

Use a nonionic surfactant at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient. **DO NOT** use crop oil concentrates or methylated seed oils for broadcast applications on emerged sorghum.

Tank Mix - Foliar Grain Only

For control of additional broadleaf weeds and grasses, **Quinark EW** may be tank mixed with 2,4-D (amine), Atrazine, Banvel®, Clarity™, Laddok®, Paramount, Peak®, Permit®, Starane® or Sterling®. Refer to this and the other product's labels for mixing instructions, precautions, and restrictions. Follow the most restrictive instructions for each tank mix partner.

Leaf speckling can occur when **Quinark EW** is used with certain formulations of crop protection products and adjuvants.

DIRECTED OR SHIELDED SPRAY APPLICATIONS

Apply **Quinark EW** when the sorghum is at least 4 inches tall to prior to the boot stage. Use drop nozzles or other sprayers capable of directing the spray to the target weeds and away from the whorl and leaves of the sorghum plant. Applications shall be made by ground equipment using a minimum finished spray volume of 10 gallons per acre. Refer to **Table 3** for weeds controlled at labeled rates of **Quinark EW**. **Coverage is essential for good control.** Directed, shielded, or hooded sprayers are required for post-emergence treatments to forage sorghum and sorghum grown for seed.

Quinark EW Use Rates - Directed or Shielded Spray

Apply up to 1.0 fl oz **Quinark EW** (00.016 pound active ingredient) per acre using directed or shielded sprayers.

Adjuvant Requirements - Directed or Shielded Spray

Use a nonionic surfactant at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient. Crop oil concentrates or methylated seed oils may increase crop injury on sorghum.

Tank Mix - Directed or Shielded Spray

For control of additional broadleaf weeds and grasses, **Quinark EW** may be tank mixed with 2,4-D (amine), Atrazine, Banvel®, Clarity™, Laddok®, Paramount, Peak®, Permit®, Starane® or Sterling®. Refer to this and the other product's labels for mixing instructions, precautions, and restrictions. Follow the most restrictive instructions for each tank mix partner.

HOODED SPRAYER APPLICATION

Apply **Quinark EW** with hooded sprayers to control labeled weeds between the rows of the crop. Refer to the **Hooded Sprayer Applications** section of this label for additional specific use directions.

HARVEST AID (WEED CONTROL)

Apply **Quinark EW** to defoliate and/or desiccate troublesome broadleaf weeds e.g. morningglories, pigweeds and velvetleaf that may be present at harvest.

Refer to the **Harvest Aid** section of this label for additional specific use directions.

PRECAUTIONS

DO NOT use crop oil concentrates or methylated seed oils for broadcast applications on emerged sorghum.

Leaf speckling can occur when **Quinark EW** is used with certain formulations of crop protection products and adjuvants.

SOYBEANS

Methods and Timing	PHI	Target Weeds	Rates	Restrictions
Preplant Burndown	DO NOT apply within 3 days of harvest.	Refer to Table 3	Apply up to 1.5 fl oz (0.023 pound active ingredient) per acre.	DO NOT apply more than 1.5 fl oz (0.023 pound active ingredient) per acre per year. DO NOT apply more than 1.5 fl oz (0.023 pound active ingredient) per acre per application. DO NOT feed treated soybean forage or hay to livestock. DO NOT use with diphenylether herbicides. DO NOT apply when conditions favoring drift exist. DO NOT apply when crop foliage is wet from dew, rainfall or irrigation.
Post-emergence (Broadcast)	V10	Refer to Table 3	See DIRECTIONS FOR USE below for details.	
Post-emergence (Directed Spray and Hooded Sprayer Applications Only)	V10	Refer to Table 3	Apply up to 1.5 fl oz (0.023 pound active ingredient) per acre.	
Harvest Aid	DO NOT apply within 3 days of harvest.	Refer to Table 3	Apply up to 1.5 fl oz (0.023 pound active ingredient) per acre.	

DIRECTIONS FOR USE:

Apply **Quinark EW** alone or as a tank mixture with other herbicides to emerged and actively growing weeds. Apply to soybeans in all tillage systems from prior to planting up to prior to emergence. **DO NOT** apply **Quinark EW** during a period from emergence to V2. After plants have reached V3, applications are allowed up to V10.

For optimum performance, make application to actively growing weeds up to 4 inches tall and rosettes less than 3 inches across. Use the higher rates when treating more mature weeds or dense vegetative growth. **Coverage is essential for good control.** Refer to weed control list in **Table 3** for appropriate weed control information.

Broadcast Post-emergence Application

Apply **Quinark EW** at 1.5 fl oz (0.023 pound active ingredient) per acre for the control of velvetleaf. **DO NOT** apply **Quinark EW** to soybeans with maturities less than Group 2.0. For soybeans of maturity Group 2.1 to 3.4, apply **Quinark EW** at rates up to 1.5 fl oz (0.023 pound active ingredient) per acre. Use caution when making applications when making these treatments.

For soybeans maturing later than Group 3.5, apply **Quinark EW** at rates up to 1.5 fl oz (0.023 pound active ingredient) per acre.

Adjuvant Requirements

Use NIS only as the adjuvant for this treatment at the rate of 0.25% v/v (2 pints per 100 gallons of spray solution).

Broadcast Application Precaution

The application of **Quinark EW** to soybeans may result in crop response. Soybeans may show some burn, speckling or necrosis of crop leaves. Soybeans quickly outgrow initial herbicide effects and yields are not affected. **DO NOT** make applications during conditions of abnormal cool, high humidity or if foliage is wet from dew, rainfall or irrigation. Users must be aware of these potential effects prior to making applications. If the user is not willing to accept these risks, applications must not be made.

For additional information on crop response, refer to the **PRODUCT INFORMATION** section of this label.

(continued)

SOYBEANS

DIRECTIONS FOR USE: *(continued)*

Tank Mix

Quinark EW may be tank mixed with other herbicides to control weeds not listed on this label. **DO NOT use with diphenylether herbicides.** Read and follow all manufacturers' label directions for the mixture herbicide except for specific directions on this label. For specific mixing instructions, refer to the **Mixing and Loading Instructions** under the **PRODUCT INFORMATION** section. For control of additional broadleaf weeds and grasses, **Quinark EW** may be tank mixed with glyphosate or glufosinate products for use on GMO soybeans. Leaf injury can occur when **Quinark EW** is used with certain formulations of crop protection products and adjuvants. Refer to the **TANK MIXTURES** and **ADJUVANTS USE REQUIREMENTS** sections under **PRODUCT INFORMATION**.

When used as directed **Quinark EW** at 0.25 fl oz (0.004 pound active ingredient) per acre will provide:

Control of listed weeds up to 4 inches tall.

Velvetleaf

When used as directed, **Quinark EW** at 0.5 fl oz (0.008 pound active ingredient) per acre will provide:

Control of weeds up to 4 inches tall, or as specified.

Lambsquarters, common	Nightshade, black
Morningglory, Pitted (up to 3 true leaves)	Pigweed, redroot
Morningglory, Ivyleaf (up to 3 true leaves)	Waterhemp spp. (up to 3 inches tall)

Hooded Sprayer Application

Apply **Quinark EW** with hooded sprayers to control labeled weeds between the rows of the crop. Refer to the **Hooded Sprayer Applications** of this label for additional specific use directions.

Directed Sprayer Application

Use **Quinark EW** at 0.5 to 1.5 fl oz (0.008 to 0.023 pound active ingredient) per acre. Applications shall be made by ground equipment using a finished volume of 10 to 20 gallons of spray per acre. When soybeans are grown under very dry soil moisture conditions, the use of a high quality sprayable liquid nitrogen fertilizer (2 to 4% v/v) or 2 to 4 gallons per 100 gallon spray solution) used in addition to the nonionic surfactant is allowed. Apply as a post-directed treatment with spray directed toward the base of the plant and avoid contact with soybean foliage. The use of spray shields may reduce spray contact with soybean foliage. **Quinark EW** contact with soybean foliage can result in significant crop response.

Harvest Aid

Apply up to 1.5 fl oz (0.023 pound active ingredient) **Quinark EW** per acre, but not to exceed maximum labeled rates. Refer to the **Maximum Allowable Quinark EW Use Rate** and the **PREHARVEST INTERVAL (Table 2)** for additional application information. If treatments of **Quinark EW** have been made to the crop earlier, that volume must be considered in determining the maximum use rate as a harvest aid treatment.

Applications shall be made in spray volumes sufficient to provide complete coverage of foliage. Use a minimum of 15 gallons of finished spray per acre for ground application and 5 gallons per acre for aerial application. A methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use methylated seed oil, or crop oil concentrate (COC) (petroleum or seed oil) at 1 to 2% v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4% v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the methylated seed oil or crop oil is allowed.

Sugarcane

Methods and Timing	PHI	Target Weeds	Rates	Restrictions
Post-emergence Treatment or Hooded/Directed Spray	DO NOT apply within 7 days of harvest.	Refer to Table 3	Apply up to 2.0 fl oz (0.031 pounds active ingredient) per acre.	DO NOT apply more than 2.0 fl oz (0.031 pound active ingredient) per acre per application. DO NOT apply more than 6.1 fl oz (0.096 pounds active ingredient) per acre per year.
Harvest Aid	DO NOT apply within 7 days of harvest.	Desiccate troublesome broadleaf weeds e.g. morningglories, pigweeds and velvetleaf.	Apply 1.0 - 2.0 fl oz (0.016 - 0.031 pounds active ingredient) per acre.	DO NOT apply more than one harvest aid treatment per year. DO NOT apply more than 2.0 fl oz (0.031 pound active ingredient) per acre per year as a harvest aid treatment.

DIRECTIONS FOR USE:

Post-emergence/Hood Spray Application

Apply **Quinark EW** alone or as a tank mixture with other herbicides as a post-emergence treatment or as a hooded/directed spray treatment to control emerged and actively growing weeds. Apply **Quinark EW** up to 2.0 fl oz (0.031 pound active ingredient) per acre. Apply hooded/directed applications of **Quinark EW** to middles (between rows of plants) and in strips (in row of plants). Apply **Quinark EW** at any time during the season (see **Precautions**). **Quinark EW** may be mixed with other herbicides that have pre-emergence or post-emergence activity. Any pre-emergence activity must rely on activity from other herbicides as directed on their labels. Herbicides including glyphosate may be tank mixed with **Quinark EW** for broader spectrum weed control. If **Quinark EW** is used in a tank mixture, observe the other product's label for restrictions, precautions and rotational cropping instructions.

Harvest Aid Application

Quinark EW is effective as a harvest aid to defoliate and desiccate troublesome weeds that may be present at harvest. Apply **Quinark EW** alone or as a tank mixture with other sugarcane harvest aids.

Adjuvant Requirements

Control is enhanced with the addition of a nonionic surfactant (NIS) or crop oil concentrate (COC). Use a quality nonionic surfactant (NIS) containing at least 80% active at 0.25% v/v (2 pints NIS per 100 gallons) or a crop oil concentrate (COC) at 1% v/v (one gallon COC per 100 gallons), or a methylated seed oil (MSO). The use of a high quality sprayable liquid nitrogen fertilizer at 2 to 4% v/v or ammonium sulfate (AMS) used at 2 to 4 pounds per acre in addition to the NIS, or MSO or COC is allowed.

Crop Rotation

After an application of **Quinark EW** to sugarcane, you may only rotate the field to a carfentrazone-ethyl registered crop.

TOBACCO

Methods and Timing	PHI	Target Weeds	Rates	Restrictions
Post-emerge Weed Control (pre-transplant, shielded/ hooded spray, directed spray)	DO NOT apply within 6 days of harvest.	Refer to Table 3	Apply up to 1.5 fl oz (0.024 pound active ingredient) per acre.	DO NOT apply more than 1.5 fl oz (0.024 pound active ingredient) per acre per application. DO NOT apply more than 3.2 fl oz (0.05 pounds active ingredient) per acre per year.

DIRECTIONS FOR USE:

Apply **Quinark EW** alone or as a tank mixture with other registered herbicides to emerged and actively growing weeds. For optimum performance, make applications to weeds up to 4 inches tall and rosettes less than 3 inches across. Use higher rates when treating more mature weeds or dense vegetative growth.

Coverage is essential for good control.

Adjuvant Requirements

Use adequate spray volume to achieve thorough coverage, but a minimum of 10 gallons of finished spray per acre is required. Use a quality crop oil concentrate (COC) at 1% v/v (1 gallon of COC per 100 gallons of spray solution).

Quinark EW may be tank mixed with other herbicides registered for use on tobacco to provide additional weed control. For specific mixing instructions, refer to the **Mixing and Loading Instructions** under the **PRODUCT INFORMATION** section. Refer to the other product label for restrictions on tank mixing and observe all label precautions, instructions and rotational cropping restrictions.

For additional information refer to the **PRODUCT INFORMATION** section of the **Quinark EW** label.

Pre-transplant Burndown

Quinark EW is a contact herbicide for pre-transplant burndown control of broadleaf weeds in tobacco. Apply **Quinark EW** as a broadcast application alone or as a tank mixture with other herbicides to emerged and actively growing weeds. Apply **Quinark EW** up to one (1) day prior to transplanting.

Shielded Spray or Hooded Spray

Apply **Quinark EW** using shielded sprayers or hooded sprayers to emerged and actively growing broadleaf weeds in tobacco from transplanting until layby. Shielded spray or hooded spray applications of **Quinark EW** or **Quinark EW** tank mixtures must utilize application equipment that must prevent contact of spray solution with the tobacco plant. **DO NOT** allow spray solution to contact tobacco foliage or green stem tissue. Refer to the **Hooded Sprayer Applications** section of this label for additional specific use directions.

Directed Spray After First Priming (Flue Cured Tobacco Only)

Apply **Quinark EW** as a directed spray application after the first priming in flue cured tobacco only for the control of emerged and actively growing broadleaf weeds. Directed spray equipment must position nozzles a minimum of 3 to 4 inches above the soil, with nozzles directed underneath the crop canopy. Spray solution must be directed at the base of tobacco plants for minimal contact with foliage while maintaining maximum contact with broadleaf weeds that are at appropriate treatment size. **DO NOT** apply when conditions favor drift or wind is above 10 mph.

For control of additional broadleaf weeds and grasses, **Quinark EW** may be tank mixed with other herbicides registered for use in tobacco at the appropriate timing. Refer to weed control list in **Table 3** for appropriate weed control information. Refer to the other product's label for restrictions on tank mixing, and observe all label precautions, instructions and rotational cropping restrictions.

TUBEROUS AND CORM VEGETABLES (SUBGROUP 1C)

Methods and Timing	PHI	Target Weeds	Rates	Restrictions
Preplant Burndown See the Preplant Burndown section for directions for application.	DO NOT apply within 7 days of harvest.	Refer to Table 3	Apply up to 2.0 fl oz Quinark EW (0.031 pound active ingredient) per acre.	DO NOT apply more than 5.8 fl oz (0.09 pound active ingredient) per acre per application. DO NOT apply more than 11.6 fl oz of (0.181 pound active ingredient) per acre per crop year as a desiccant.
Harvest Aid	DO NOT apply within 7 days of harvest.	Refer to Table 3	Apply 3.2 to 5.8 fl oz (0.05 to 0.09 pound active ingredient) per acre. Apply 2.0 - 5.8 fl oz with other registered potato desiccants.	DO NOT apply when conditions favor drift or wind is above 10 mph.

DIRECTIONS FOR USE:

Apply **Quinark EW** alone or in a tank mix combination with other herbicides and insecticides as a fallow systems treatment, as a preplant burndown treatment and/or as a harvest aid to desiccate potatoes and those susceptible weeds that may be present.

Preplant Burndown

Apply **Quinark EW** alone or with other herbicides or liquid fertilizers as a burndown treatment to control or suppress weeds. **Quinark EW** is effective as a burndown treatment for crops prior to new plantings. **DO NOT** exceed the applicable amounts as listed for the specific crop in the **Maximum Allowable Quinark EW Use** in **Table 1**. For optimum performance, make applications to actively growing weeds up to 4 inches high or rosettes less than 3 inches across. **Coverage is essential for good control.** Optimum broad-spectrum control of annual and perennial weeds requires a tank mix with a labeled burndown herbicide including glyphosate, glufosinate, paraquat, 2,4-D, or dicamba.

Harvest Aid Desiccation Application

Apply **Quinark EW** foliar to potatoes in the later stages of senescence for desiccation of potato foliage and vines. **Quinark EW** will also desiccate late season susceptible broadleaf weeds to aid in tuber harvest. Adequate desiccation is achieved within 14 days after the initial treatment is applied. If the potato crop is in the active vegetative growth stage when desiccation is initiated, two applications may be required to provide desiccation of leaf and stem tissue. Dense potato canopy, large plant size and environmental conditions not conducive to product absorption or activity will reduce initial application efficacy and increase the need for a second application. If a second application is necessary, apply at 7 to 14 days after the first application. **Thorough coverage of the potato plant to be desiccated is essential.** Use a sufficient volume of water to obtain thorough coverage of the potato leaves and vines.

Ground Application

Apply **Quinark EW** in at least 20 gallons of water per acre. Vary the spray volume and spray pressure as indicated by the density of the potato canopy and vines to assure thorough spray coverage. Increase the spray volume and pressure if the potato canopy is dense or under cool, cloudy or dry conditions. Increased spray volumes will enhance performance.

Aerial Application

Apply **Quinark EW** with aerial equipment using 5 to 10 gallons of water per acre, using higher volumes when potato canopies and vines are dense. Adjust the nozzles to provide a uniform pattern and a droplet size of 350 to 450 microns.

Adjuvant Requirements

A nonionic surfactant (NIS), methylated seed oil (MSO), crop oil concentrate (COC) or other suitable surfactant mixture is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient, or a methylated seed oil, or crop oil concentrate (COC) (petroleum or seed oil) at 1 to 2% v/v (1 to 2 gallons per 100 gallons of spray solution). The use of a high quality sprayable liquid nitrogen fertilizer at 2 to 4% v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the nonionic surfactant methylated seed oil or crop oil is allowed.

Adjuvant rates may be increased as spray volumes exceed 20 gallons per acre.

Tank Mix

Apply **Quinark EW** as a tank mix or as a sequential application with other potato desiccants. Refer to the other product's label for restrictions on tank mixing, and observe all label precautions, instructions and rotational cropping restrictions.

STORAGE AND DISPOSAL

DO NOT contaminate water, food or feed by storage or disposal.

PESTICIDE STORAGE: Store in a tightly closed container in a cool, dry place. Store in original container and out of reach of children, preferably in a locked storage area.

PESTICIDE DISPOSAL: Pesticide spray mixture or rinsate that cannot be used must be disposed of in a landfill approved for pesticides. Improper disposal of excess pesticide spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by the use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER HANDLING: Nonrefillable container. DO NOT reuse or refill this container. If empty: Offer for recycling if available or discard in a sanitary landfill. If partly filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

For plastic containers ≤ 5 gallons: Nonrefillable Container. DO NOT reuse or refill this container. Triple 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by other procedures allowed by state and local authorities.

For plastic containers > 5 gallons: Nonrefillable container. DO NOT reuse or refill this container. Triple 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. Recap 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by other procedures allowed by state and local authorities.

LIMITATION OF WARRANTY AND LIABILITY

IMPORTANT: READ BEFORE USE. Read the entire Directions for Use, Conditions of Warranties and Limitations of Liability before using this product. If these terms and conditions are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following Disclaimer of Warranties and Limitations of Liability. **CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Ineffectiveness, injury, and other unintended consequences may result because of such factors as manner of use or application (including misuse), the presence of other materials, weather conditions, and other unknown factors, all of which are beyond the control of ATTICUS, LLC. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

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