

42750-89

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

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

FEB 18 2014

Morris Gaskins  
Albaugh, Inc.  
P.O. Box 2127  
Valdosta, GA 31604

Dear Ms. Miter:

SUBJECT: Label Amendment  
Clopyralid MEA AG  
EPA Registration No. 42750-89  
Your Resubmission Dated January 16, 2014  
Decision #478719

The label amendment referred to above, submitted in accordance with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable. A stamped copy is enclosed for your records. Please submit one (1) copy of your final printed labeling before you release the product for shipment. This amended labeling supersedes all previously accepted ones.

Sincerely yours,

A handwritten signature in black ink that reads "Kathryn V. Montague".

Kathryn V. Montague  
Product Manager (23)  
Herbicide Branch  
Registration Division (7505P)

Enclosure

# CLOPYRALID MEA AG

For selective post-emergence control of broadleaf weeds and woody brush in asparagus, Brassica (Cole) leafy vegetables, canola, Christmas tree plantations, tree plantations, fallow cropland, field corn, forest sites, garden beet, grasses grown for seed, mint, popcorn, spinach, stone fruits, sugar beet, sweet corn, turnip, barley, oats and wheat not under seeded with a legume, conservation reserve program (CRP) acres, non-cropland (including industrial manufacturing and storage sites, rights-of-way, and wildlife openings including grazed areas on these sites, tree plantations), southern pine seedbeds, and rangeland and permanent grass pastures

ACTIVE INGREDIENT:

Clopyralid: 3,6-dichloro-2-pyridinecarboxylic acid, monoethanolamine salt	40.9%
INERT INGREDIENTS:	59.1%
TOTAL:	100.0%

Acid Equivalent: clopyralid: 3,6-dichloro-2-pyridinecarboxylic acid - 31% (3 lb/gal)

KEEP OUT OF REACH OF CHILDREN

## CAUTION PRECAUCION

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.)

### FIRST AID

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

**IF ON SKIN OR CLOTHING:**  
Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

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

In case of an emergency, Call CHEMTREC at 1-800-494-9300

EPA Reg. No. 42750-89

EPA Est. No. xxxxx-xx-xxx

NET CONTENT: \_\_\_\_\_ Gal.

MANUFACTURED BY:  
Albaugh, Inc.  
Ankeny, IA 50021

ACCEPTED

FEB 18 2014

Under the Federal Insecticide, Fungicide, and Rodenticide Act,  
42750-89

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Harmful If Absorbed Through Skin. Avoid contact with eyes, skin, or clothing. Avoid breathing spray mist.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

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

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

#### USER SAFETY RECOMMENDATIONS

Users should:

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

#### ENVIRONMENTAL HAZARDS

Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Do not contaminate water used for irrigation or domestic purposes.

Clopyralid is a chemical which can travel (seep or leach) through soil and under certain conditions contaminate groundwater which may be used for irrigation or drinking purposes. Users are advised not to apply clopyralid where soils have a rapid to very rapid permeability throughout the profile (such as loamy sand to sand) and the water table of an underlying aquifer is shallow, or to soils that would allow direct introduction into an aquifer. Your local agricultural agencies can provide further information on the type of soil in your area and the location of groundwater.

#### PHYSICAL OR CHEMICAL HAZARDS

Combustible. Do not use or store near heat or open flame.

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

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

#### DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Use of this product in Oregon is limited to the sites stated on this label which are agricultural, forest and right-of-way.

**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, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks
- Protective eyewear

**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 pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or green houses.

Entry Restrictions for Non-WPS Uses: For application to fallow cropland, rangeland, pasture, and non-crop areas, do not enter treated areas until sprays have dried. For early entry to treated areas, wear eye protection, chemical-resistant gloves made of any waterproof material, long-sleeved shirt, long pants, shoes and socks.

**STORAGE AND DISPOSAL**

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

PESTICIDE STORAGE: Store above 28° F or warm to 40° F and agitate before use.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

(non-refillable ≤5 gallons): 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 ¼ 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.

(non-refillable >5 gallons): Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and

tip back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows (all sizes): Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use for disposal. Insert pressure rinsing nozzle inside of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**[Optional Text for Refillable Containers]**

*Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.*

*To clean the container before final disposal, empty the remaining contents from the container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing process two more times.*

**PRODUCT INFORMATION**

CLOPYRALID MEA AG herbicide is recommended for selective, postemergence control of broadleaf weeds and select woody brush species in asparagus, barley, oats and wheat not under seeded with a legume, canola, Christmas tree plantations, fallow cropland, field corn, garden beet, grasses grown for seed, mint (spearmint and peppermint), popcorn, spinach, stone fruits, sugar beet, sweet corn, turnip, cottonwood/poplar and eucalyptus tree plantations, rangeland and permanent grass pastures, conservation reserve program (CRP) acres, and non-cropland areas including fence rows, around farm buildings, equipment pathways, industrial manufacturing and storage sites, forest sites, and rights-of-way (such as along roadsides, electrical lines and railroads). Use on these sites may include application to grazed areas as well as establishment and maintenance of wildlife openings, wild parkland and wildlife management areas, and forest spot application adjacent to these sites.

**PRECAUTIONS AND RESTRICTIONS**

- In California, the maximum application rate for CLOPYRALID MEA AG is 2/3 pint per acre per growing season. Do not exceed a cumulative amount of 2/3 pint (0.25 lb active ingredient (a.i.) of clopyralid per acre per crop year.
- In New York State – Not for sale, use or distribution in Nassau and Suffolk Counties. The maximum application rate for CLOPYRALID MEA AG is 2/3 pint per acre (0.25 lb. active equivalent of clopyralid) per acre per crop year.
- Do not contaminate irrigation ditches or water used for irrigation or domestic purposes.
- CLOPYRALID MEA AG may be applied by aircraft on the following crops: spinach, canola (rapeseed), crambe and sugar beets. Do not apply CLOPYRALID MEA AG by aircraft to other crops.
- Do not use in greenhouses.
- Chemigation: Do not apply this product through any type of irrigation system.
- Re-treatment is allowed, but do not apply more than the maximum allowable rate per crop growing season. An application to fallow cropland preceding or following an application to dryland small grains (wheat, barley or oats) is allowed, but is not allowed preceding or following an application to irrigated small grains.
- Do not transfer livestock from treated grazing areas (or feeding of treated hay) to sensitive broadleaf crop areas without first allowing 7 days of grazing on an untreated pasture (or feeding of treated hay). If livestock are transferred within less than 7 days of grazing untreated pasture or eating untreated hay, urine and manure may contain enough clopyralid to cause injury to sensitive broadleaf plants.
- Field Bioassay Instructions: In fields previously treated with this product, plant short test rows of the intended rotational crop across the original direction of application. The test area should sample field conditions such as soil texture, soil pH, drainage, and any other variable that could affect the seed

bed of the new crop. The field bioassay can be initiated at any time between harvest of the treated crop and the planting of the rotational crop. Observe the test crop for herbicidal activity, such as poor stand (effect on seed germination) chlorosis (yellowing), and necrosis (dead leaves or shoots), or stunting (reduced growth). If herbicidal symptoms do not occur, the test crop can be grown. If there is apparent herbicidal activity, do not plant the field to the test rotational crop; plant only a labeled crop or crop listed in the table above for which the rotational interval has clearly been met.

- In Arizona: The state of Arizona has not approved CLOPYRALID MEA AG for use on plants grown for agricultural/commercial production; such as on designated grazing areas.
- Use of this product in Oregon is limited to the sites stated on this label which are agricultural, forest and right-of-way.
- In Florida, CLOPYRALID MEA AG can be used only in the following counties: Bay, Bradford, Calhoun, Escambia, Franklin, Gadsden, Gulf, Hamilton, Jackson, Jefferson, Lafayette, Leon, Liberty, Madison, Okaloosa, Santa Rosa, Suwanee, Taylor, Wakulla, Walton and Washington.
- Rotation to Broadleaf Crops: Do not plant broadleaf crops in treated areas until an adequately sensitive bioassay shows that no detectable clopyralid is present in the soil.
- Grazing/Haying: There are no restrictions on grazing or hay harvest following application of CLOPYRALID MEA AG at labeled rates.
- Some desirable broadleaf plants (forbs) are susceptible to CLOPYRALID MEA AG. Do not spray pastures containing desirable forbs, especially legumes, unless injury can be tolerated. However, the stand and growth of established perennial grasses is usually improved after treatment, especially if rainfall is adequate for active plant growth and grazing is deferred.
- Grasses are tolerant to CLOPYRALID MEA AG, but new grass seedlings may be injured to varying degrees until well established as evidenced by development of secondary roots and tillering (multiple stems).
- Do not use hay or straw from treated areas for composting or mulching on susceptible broadleaf crops.

### CROP ROTATION INTERVALS

Residues of CLOPYRALID MEA AG in treated plant tissues, including the treated crop or weeds, which have not completely decayed may affect succeeding susceptible crops.

Crop Rotation Intervals for All States, Except California, Idaho, Nevada, Oregon, Utah and Washington

Note: Numbers in parenthesis and + refer to footnotes following tables.

Rotation Crops (1)	Rotation Interval+ (Soils greater than 2% organic matter AND rainfall more than 15 inches during 12 months following application)	Rotation Interval+ (Soils less than 2% organic matter AND rainfall less than 15 inches during 12 months following application)
barley, canola (rapeseed), cole crops (brassica species), flax, garden beet, grasses, field corn, oats, popcorn, spinach, sugar beet, sweet corn, turnip, wheat	Anytime	Anytime
alfalfa, asparagus, grain sorghum, mint, onions, safflower, strawberry	10.5 months	10.5 months
dry beans, soybeans, sunflowers	10.5 months	18 months (2)
lentils, peas, potatoes (including potatoes grown for seed), and broadleaf crops grown for seed (excluding Brassica species)	18 months (2)	18 months (2, 3)

1. A field bioassay is recommended prior to planting any broadleaf crops that are not listed. Do not rotate to unlisted crops prior to 10.5 months following application.
2. An 18-month crop rotation is recommended due to the potential for crop injury unless previous experience has shown no crop injury with the minimum 10.5 month rotation interval. Note: For these crops, a minimum 10.5 month rotation interval must be observed to avoid illegal residues in the harvested crop.
3. A field bioassay is also recommended prior to planting these sensitive crops. See instructions below.

Crop Rotation Intervals for California, Idaho, Nevada, Oregon, Utah and Washington

Rotation Crops (1)	Rotation Interval+ (Areas receiving greater than 18 inches of rainfall – not including irrigation)	Rotation Interval+ (Areas receiving less than 18 inches of rainfall – not including irrigation)
barley, canola (rapeseed), cole crops (includes Brassica species grown for seed), flax, garden beet, grasses, field corn, oats, popcorn, spinach, sugar beet, sweet corn, turnip, wheat	Anytime	Anytime
asparagus, grain sorghum, mint, onions, strawberry	12 months	12 months
alfalfa, dry beans, soybeans, sunflower	12 months	18 months (2, 3)
broadleaf crops grown for seed (excluding Brassica species), carrots (2), celery (2), cotton (2), lentils, lettuce (2), melons (2), peas, potatoes (including potatoes grown for seed), safflower, and tomatoes (2)	18 months (2)	18 months (2, 3)

1. A field bioassay is recommended prior to planting any broadleaf crops that are not listed. Do not rotate to unlisted crops prior to 12 months following application.
2. An 18-month crop rotation is recommended due to the potential for crop injury unless previous experience has shown no crop injury with the minimum 10.5 month rotation interval. Note: For these crops, a minimum 12 month rotation interval must be observed to avoid illegal residues in the harvested crop.
3. Crop injury and/or yield loss may occur up to 4 years after application. A field bioassay is also recommended prior to planting these sensitive crops. See instructions below.

+Note: The above intervals are based on average annual precipitation, regardless of irrigation practices.

Observance of recommended crop rotation intervals should result in adequate safety to rotational crops. However, CLOPYRALID MEA AG is dissipated in the soil by microbial activity and the rate of microbial activity is dependent on several interrelating factors including soil moisture, temperature and organic matter. Therefore, accurate prediction of rotational crop safety is not possible. In areas of low organic matter (<2.0%) and less than 15 inches average annual precipitation, potential for crop injury may be reduced by burning or removal of plant residues, supplemental fall irrigation and deep moldboard plowing prior to planting the sensitive crop.

Avoiding Injury to Non-Target Plants

This product can affect susceptible broadleaf plants directly through foliar contact and indirectly by root

uptake from soil. Therefore, do not apply CLOPYRALID MEA AG directly to, or allow spray drift to come in contact with vegetables, flowers, tomatoes, potatoes, beans, lentils, peas, alfalfa, sunflowers, soybeans, safflower, or other desirable broadleaf crops or ornamental plants or soil where sensitive crops will be planted the same season. (See guidance on Crop Rotation Restrictions.)

Small areas of new legume seedlings should be established prior to seedling more extensive areas in order to determine if phytotoxic residues are present in the soil of previously treated areas at levels that could inhibit legume establishment.

Unless otherwise specified on this label or supplemental labeling for CLOPYRALID MEA AG, do not apply this product to any broadleaf crop or ornamental planting or to areas where sensitive plants will be planted during the same growing season. (See following guidance on "Rotation to Broadleaf Crops".)

#### Residues in Plants or Manure:

Do not use plant residues, including hay or straw from treated areas, or manure from animals that have grazed or consumed forage from treated areas for composting or mulching where susceptible plants may be grown the following season. Do not spread manure from animals that have grazed or consumed forage or hay from treated areas on land used for growing susceptible broadleaf crops. To promote herbicidal decomposition, plant residues should be evenly incorporated or burned. Breakdown of clopyralid in crop residues or manure is more rapid under warm, moist soil conditions and may be enhanced by supplemental irrigation.

#### Advisory (Avoid Movement of Treated Soil):

Avoid conditions under which soil from treated areas may be moved or blown to areas containing susceptible plants. Wind-blown dust containing clopyralid may produce visible symptoms, such as epinasty (downward curving or twisting of leaf petioles or stems), when deposited on susceptible plants, however, serious injury is unlikely. To minimize potential movement of clopyralid on wind-blown dust, avoid treatment of powdery dry or light sandy soils until soil is settled by rainfall or irrigation or irrigate shortly after application.

#### Avoid spray drift:

Avoid spray drift since very small quantities of the spray, which may not be visible, may severely injure susceptible crops during active growth or dormant periods. Use coarse sprays to minimize drift. A drift control or deposition agent suitable for agricultural use may be used with this product to aid in reducing spray drift. If used, follow all use recommendations and precautions on the product label.

### SPRAY DRIFT MANAGEMENT

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

#### Ground Application:

With ground equipment, spray drift may be lessened by keeping the spray boom as low as possible, by applying 10 or more gallons or more of spray per acre, by keeping the operating spray pressures at the manufacturer's minimum recommended pressure for the specified nozzle type used (low pressure nozzles are available from spray equipment manufacturers), and by spraying when the wind velocity is low (follow state regulations). Avoid application under completely calm conditions which may be conducive to air inversion. In hand-gun applications, select the minimum pressure required to obtain adequate plant coverage without forming a mist. Do not apply with a mist blower.

#### Aerial Application:

With aircraft, drift can be lessened by using straight stream nozzles directed straight back; by using a



spray boom no longer than ¾ the wing span of the aircraft; by using drift control systems or drift control additives; and by keeping spray pressures low enough to provide coarse spray droplets. Do not use a thickening agent with the Microfoil or Thru-Valve booms, or other systems that cannot accommodate thick sprays. Spray only when wind velocity is low (follow state regulations). Avoid calm conditions which may be conducive to air inversions.

Do not apply by aircraft when an air temperature inversion exists. Such a condition is characterized by little or no wind and lower air temperature near the ground than at higher levels. The use of a smoke device on the aircraft or continuous smoke column at or near the site will indicate air direction and velocity, and whether a temperature inversion is present, as indicated by horizontal layering of the smoke.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed 75% the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the following Aerial Drift Reduction Advisory Information:

Importance of Droplet Size:

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversion section of this label).

Controlling Droplet Size:

Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows product larger droplets.

Pressure - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

Number of nozzles - Use the minimum number of nozzles that provide uniform coverage.

Nozzle Orientation - Orienting nozzles so that the spray is released backwards, parallel to the airstream will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.

Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.

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

Application - Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest

height that is safe reduces exposure of droplets to evaporation and wind.

#### Swath Adjustment:

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

#### Wind:

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

#### Temperature and Humidity:

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

#### Temperature Inversions:

Applications should not occur during a temperature inversion, because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small-suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a connected cloud (under low wind conditions) indicates an inversion, while smoke that moves upwards and rapidly dissipates indicates good vertical air mixing.

#### Sensitive Areas:

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

#### Sprayer Clean-Out

To avoid injury to desirable plants, equipment used to apply CLOPYRALID MEA AG should be thoroughly cleaned before re-using to apply any other chemicals.

1. Rinse and flush application equipment thoroughly after use at least three times with water. Dispose of all rinse water by application to treatment area or apply to non-cropland area away from water supplies.
2. During the second rinse, add 1 qt of household ammonia for every 25 gallons of water. Circulate the solution through the entire system so that all internal surfaces are contacted (15-20 min). Let the solution stand for several hours, preferably overnight.
3. Flush the solution out of the spray tank through the boom.
4. Rinse the system twice with clean water, recirculating and draining each time.
5. Remove nozzles and screens and clean separately.

#### Mixing Instructions

Water Dilution – To prepare a water dilution of CLOPYRALID MEA AG:

1. Add 3/4 of the required spray volume to the spray tank and start agitation.
2. Add the required amount of CLOPYRALID MEA AG.
3. Add any surfactants, adjuvants or drift control agents according to manufacturer's label.
4. Agitate during final filling of the spray tank and maintain sufficient agitation during application to ensure uniformity of the spray mixture.

NOTE: Allow time for thorough mixing of each spray ingredient before adding the next. If allowed to stand after mixing, agitate spray mixture before use.

**Tank Mixing:**

This product may be applied in tank mix combination with labeled rates of other products provided (1) the tank mix product is labeled for the timing and method of application for the use site to be treated; and (2) tank mixing is not prohibited by the label of the tank mix product.

**Tank Mixing Precautions:**

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed recommended application rates. Do not tank mix with another pesticide product that contains the same active ingredient as this product unless the label of either tank mix partner specifies the maximum dosages that may be used.
- For products packaged in water soluble packaging, do not tank mix with products containing boron or mix in equipment previously used to apply a product mixture containing boron unless the tank and spray equipment has been adequately cleaned. (See instructions for Sprayer Clean-Out.)
- Always perform a (jar) test to ensure the compatibility of products to be used in tank mixture.

**Tank Mix Compatibility Testing:**

A jar test is recommended prior to tank mixing to ensure compatibility of CLOPYRALID MEA AG and other pesticides. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, jels, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

**APPLICATION DIRECTIONS**

**Application Timing:**

Apply to actively growing weeds. Extreme growing conditions such as drought or near freezing temperatures prior to, at, and following time of application may reduce weed control and increase the risk of crop injury at all stages of growth. Only weeds that have emerged at the time of application will be affected. If foliage is wet at the time of application, control may be decreased. The treatment with CLOPYRALID MEA AG will be rainfast within 6 hours after application.

**Application Rates:**

Generally, application rates at the lower end of the rate range will be satisfactory for young, succulent growth of susceptible weed species. For less sensitive species, perennials, and under conditions where control is more difficult (plant stress conditions such as drought or extreme temperatures, dense weed stands and/or large weeds), the higher rates within the rate range will be needed.

Weeds in fallow land or other areas where competition from crops is not present will generally require higher rates for control or suppression.

Crop or Use Site	Rate Range (pt/acre)	Maximum Use Rate+ (pt/acre/growing season)
Spinach	1/6 – 1/3	1/3
Barley, oats, wheat	1/4 - 1/3	1/3
Christmas tree and	1/4 - 2/3	2/3

Crop or Use Site	Rate Range (pt/acre)	Maximum Use Rate+ (pt/acre/growing season)
cottonwood/poplar and eucalyptus tree plantations, fallow cropland, field corn, grasses grown for seed, sugar beet		
Garden beet, canola (rapeseed), crambe	1/4 - 1/2	1/2
Mint, stone fruits, popcorn, sweet corn	1/3 - 2/3	2/3
Turnip	1/3 - 1/2	1/2
Permanent grasses on CRP land, non-cropland, non-leguminous trees, rangeland and permanent grass pastures	1/3 - 1 1/3	1 1/3
asparagus	1/2 - 2/3	2/3

+Do not exceed maximum rate in rate range per growing season.

**Use of Adjuvants:**

Addition of surfactants, crop oils, or other adjuvants is not usually necessary when using CLOPYRALID MEA AG. Adding a surfactant to the spray mixture may increase effectiveness on weeds but may reduce selectivity to the crop, particularly under conditions of plant stress. If an adjuvant is added to the spray solution, follow all manufacturer use guidelines.

**Spray Coverage:**

Use sufficient spray volume to provide thorough coverage and a uniform spray pattern. Do not broadcast apply in less than 2 gallons of total spray volume per acre. For best results and to minimize spray drift, apply in a spray volume of 10 or more gallons per acre. As vegetative canopy and weed density increase, spray volume should be increased to obtain equivalent weed control. Use only nozzle types and spray equipment designed for herbicide application. To reduce spray drift, follow precautions under Avoiding Injury to Non-Target Plants.

**Spot Treatments:**

To prevent misapplication, spot treatments should be applied with a calibrated boom or with hand sprayers according to directions provided below.

**Hand-Held Sprayers:**

Hand-held sprayers may be used for spot applications of CLOPYRALID MEA AG if care is taken to apply the spray uniformly and at a rate equivalent to a broadcast application. Application rates in the table are based on an area of 1,000 sq ft. Mix the amount of CLOPYRALID MEA AG (fl oz or ml) corresponding to the desired broadcast rate in one or more gallons of spray. To calculate the amount of CLOPYRALID MEA AG required for larger areas, multiply the table value (fl oz or ml) by the area to be treated in "thousands" of square feet, e.g., if the area to be treated is 3,500 sq ft, multiply the table value by 3.5 (calc. 3,500/1,000 = 3.5). An area of 1000 sq ft is approximately 10.5 X 10.5 yards (strides) in size.

Amount of CLOPYRALID MEA AG per gallon of spray to Equal Specified Broadcast Rate					
1/4 pt/acre	1/3 pt/acre	1/2 pt/acre	2/3 pt/acre	1 pt/acre	1 1/3 pt/acre
1/10 fl oz (2.7 ml)	1/8 fl oz (3.6 ml)	1/5 fl oz (5.4 ml)	1/4 fl oz (7.3 ml)	3/8 fl oz (11 ml)	0.5 fl oz (15 ml)

+1 fl oz = 29.6 (30) ml

Use the following table for converting pints to fluid ounces.

Conversion Chart - Pints to Fluid Ounces	
Pints	Fluid Ounces
1/3	5
1/4	4
1/2	8
2/3	11

Band Application:

CLOPYRALID MEA AG may be applied as a band treatment. Use the formulas below to determine the appropriate rate and volume per treated acre.

$$\begin{matrix} \text{Band width in inches} \\ \text{Row width in inches} \end{matrix} \times \begin{matrix} \text{Broadcast rate} \\ \text{per treated acre} \end{matrix} = \begin{matrix} \text{Band rate} \\ \text{per treated acre} \end{matrix}$$

$$\begin{matrix} \text{Band width in inches} \\ \text{Row width in inches} \end{matrix} \times \begin{matrix} \text{Broadcast volume} \\ \text{per treated acre} \end{matrix} = \begin{matrix} \text{Band volume} \\ \text{per treated acre} \end{matrix}$$

Broadleaf Weeds Controlled+

Note: Letter in parentheses (-) after listed weed indicates if weed is annual (a), biennial (b), or perennial (p).

- |                                   |                                 |
|-----------------------------------|---------------------------------|
| artichoke, Jerusalem (p)          | nightshade, black               |
| buckwheat, wild (a)               | nightshade, Eastern black (a)   |
| buffalobur (a)++                  | nightshade, cutleaf (a)         |
| burdock, common (b)               | nightshade, hairy (a)           |
| chamomile, false (scentless)(a)   | oxeye daisy (p)                 |
| chamomile, mayweed (dogfennel)(a) | pineappleweed (a)               |
| clover, black medic (a)           | ragweed, common (a)             |
| clover, hop (a)                   | ragweed, giant (a)              |
| clover, sweet (b)                 | salsify, meadow (goatsbeard)(b) |
| clover, red (p)                   | sicklepod (a)                   |
| clover, white (p)                 | smartweed, green (a)++          |
| cocklebur, common (a)             | sorrel, red (p)                 |
| coffeeweed (a)                    | sowthistle, annual (a)          |
| cornflower (bachelor button)(a)   | sowthistle, perennial (p)++     |
| dandelion (p)                     | starthistle, yellow (a)         |
| dock, curly (p)                   | sunflower (a)                   |
| groundsel, common (b)             | teasel, common (b)              |
| hawksbeard, narrowleaf (a)        | thistle, artichoke (p)          |
| hawkweed, orange (p)              | thistle, bull (b)               |
| hawkweed, yellow (p)              | thistle, Canada (p)             |
| horseweed (a)                     | thistle, Italian (p)            |
| jimsonweed (a)                    | thistle, musk (b)               |
| knapweed, diffuse (b)             | vetch (a)                       |
| knapweed, Russian (p)++           | volunteer alfalfa (p)           |
| knapweed, spotted (b)             | (from seed only)                |
| ladysthumb(a)++                   | volunteer beans (a)             |
| lettuce, prickly (a)              | volunteer lentils (a)           |
| locoweed, Lambert (p)             | volunteer peas (a)              |
| locoweed, white (p)               | wormwood, biennial (a, b)+++    |
| marshelder (a)                    |                                 |

+See "Guidelines for Control of Specific Weeds" for additional information on application timing and application rates.

++These weeds may only be suppressed. Suppression is a visual reduction in weed competition (reduced population or vigor) as compared to untreated areas. The degree and duration of weed control will vary with weed size and density, application rate and coverage, and growing conditions before, during, and after the time of treatment. For perennial weeds such as Russian knapweed and perennial sowthistle, CLOPYRALID MEA AG will control the top growth and inhibit regrowth during the season of application (season-long control). At higher use rates shown on this label, CLOPYRALID MEA AG may cause a reduction in shoot regrowth in the season following application; however, plant response may be inconsistent due to inherent variability in shoot regrowth from perennial root systems.

+++Not approved for use in California

Guidelines for Control of Specific Weeds+

Weed Species	Stage of Growth	Rate Range to Control++ (pt/acre)
clover cocklebur Jerusalem artichoke jimsonweed marshelder other annual and biennial weeds ragweeds Sunflower vetch volunteer soybean	Up to 5 leaf	1/4 -1/2 pt/acre
wild buckwheat	1 - 3 leaf stage, but before vining	1/2 pt/acre
buffalobur nightshade sp. Smartweeds (suppression)	2 - 4 leaf 2 - 4 leaf 2 - 3 leaf	
Canada thistle Sowthistle (suppression)	Rosette up to bud stage	Degree of Infestation: Light - 1/3 pt/acre Moderate to heavy - 1/2 to 2/3 pt/acre
knapweeds, spotted/diffuse	Up to bud stage	1/2 to 2/3 pt/acre
knapweed, Russian +++ (suppression)		2/3 to 1 1/3 pt/acre

+This table provided as a general reference only. Refer to "Approved Uses" section for recommended application rates refer to use directions for specific crop or use site.

++Where rate range is provided, use the lower rate for light to moderate infestations under good growing conditions and the higher rate for dense infestations or under less favorable growing conditions such as drought.

+++Provides suppression only.

WOODY PLANTS AND VINES CONTROLLED

acacias  
eastern redbud  
kudzu  
locust (spp)

mesquite  
mimosa (silktree)  
wisteria

BROADLEAF WEEDS CONTROLLED  
(California Only)

knapweed, diffuse	thistle, artichoke
knapweed, Russian+	thistle, Canada (rosette to bud)
knapweed, spotted	thistle, Italian
starthistle, yellow	thistle, musk (rosette to bud)

+These weeds may only be suppressed. Suppression is a visual reduction in weed competition (reduced population or vigor) as compared to untreated areas. The degree and duration of weed control will vary with weed size and density, application rate and coverage, and growing conditions before, during, and after the time of treatment.

CROP USES

Agricultural Use Requirements for Crops: For the following crop uses, follow PPE and Re-entry instructions in the "Agricultural Use Requirements" section of this label.

ASPARAGUS

CLOPYRALID MEA AG is for selective postemergence control of specific annual and perennial broadleaf weeds infesting asparagus.

Application Timing:

Applications may be made before or during the asparagus cutting season, or after harvest is complete, but prior to fern growth. Treat annual weeds before they send up a flower stalk. For best results on perennial weeds such as Canada thistle, apply CLOPYRALID MEA AG after the majority of basal leaves have emerged up to bud stage. Following application wait at least 2 weeks before cultivating.

Note: Postharvest (layby) applications should be made as soon as possible after cutting provided weeds are in proper stage of growth for treatment. Malformed ferns may result from application when spears are longer than 3 inches or with open seed heads.

Application Rate:

Apply CLOPYRALID MEA AG at a rate of 1/2 to 2/3 pint per acre in a total spray volume of 10 to 40 gallons per acre. Use the higher rate for more effective control of perennial weeds. A second application may be made as long as the total amount applied does not exceed 2/3 pint per acre of CLOPYRALID MEA AG during the growing season.

Tank Mixtures for Asparagus:

CLOPYRALID MEA AG may be tank mixed with other herbicides registered for use on asparagus to broaden the spectrum of weeds controlled. See "Tank Mixing Precautions" under "Mixing Instructions". Follow all applicable use directions, precautions, restrictions and limitations on the labels for each product used in the tank mixture.

Specific Use Precautions:

- Preharvest Interval: Do not harvest for a minimum of 48 hours after application.
- When CLOPYRALID MEA AG is applied during the cutting season, some crooking (twisting) of asparagus spears may occur. Do not apply during the cutting season if crooking cannot be tolerated. Clear-cutting of spears just before application of CLOPYRALID MEA AG may reduce the occurrence of crooking.

APPLE

Postemergence Broadleaf Weed Control in Apple Orchards

(Not for Use or Distribution in the State of Florida or in Nassau and Suffolk Counties in New York State)

Target Broadleaf Weeds	Application Rate (pint/acre)	Use Restrictions
Aster Burdock Clover, red Clover, white Curly-dock Cocklebur Dandelion Goldenrod Horseweed Nightshade, black nightshade, hairy pineappleweed sowthistle, annual Thistle, canada Thistle, musk Vetch Volunteer alfalfa	1/4 - 2/3  (0.094 - 0.25 lb ae/acre)	<ul style="list-style-type: none"> <li>• Pre-Harvest Interval: Do not apply within 30 days of harvest.</li> <li>• Make one to two broadcast applications per crop per year. Do not apply more than a total of 2/3 pint per acre (0.25 lb ae/acre) per year.</li> <li>• Maximum single application rate is 2/3 pint per acre per growing season.</li> <li>• Apply CLOPYRALID MEA to non-bearing (well established, 1 year or older) and bearing trees.</li> <li>• East of the Rocky Mountains, do not apply CLOPYRALID MEA during bloom.</li> <li>• Avoid direct contact of foliage, fruit, or tree trunks.</li> </ul>

Broadcast Application:

Apply to the orchard floor on each side of the apple tree row with a minimum swath width of 3 feet on each side of the tree row. Apply uniformly with ground equipment in a minimum of 10 gallons of water per acre. For Canada thistle, apply after the majority of basal leaves have emerged but prior to bud stage and at least 30 days prior to harvest.

Tank Mixtures:

Stinger may be tank mixed with other herbicides labeled for use on apple. Follow all applicable use directions, precautions, restrictions and limitations on the labels for each product used in the tank mix.



17/  
37

## BARLEY, OATS AND WHEAT

### Application Rate:

Apply 1/4 to 1/3 pint per acre of CLOPYRALID MEA AG when crop is from the 3 leaf stage up to early boot stage of growth. For control of perennial weeds such as Canada thistle, 1/3 pint per acre of CLOPYRALID MEA AG should be used. Russian knapweed will only be suppressed at this rate.

### Specific Use Restrictions:

- Do not permit lactating dairy animals or meat animals being finished for slaughter to forage or graze treated grain fields within 1 week after treatment.
- Do not harvest hay from treated grain fields.

### Tank Mixtures for Barley, Oats and Wheat:

CLOPYRALID MEA AG may be applied in tank mix combination with labeled rates of other products registered for postemergence application in wheat, barley, and oats. See Tank Mixing Precautions under Mixing Instructions. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

**BRASSICA (COLE) LEAFY VEGETABLES+**

+Brassica (Cole) Leafy Vegetables, including: Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Cauliflower, Cavalo Broccolo, Chinese (Bok Choy) Cabbage, Chinese Broccoli, Chinese Mustard Cabbage, Chinese (Napa) Cabbage, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens

**Target Broadleaf Weeds and Application Rates**

Target Broadleaf Weeds	Application Rate (pint/acre)
buckwheat, wild chamomile clover cocklebur, common dandelion galinsoga lettuce, prickly pineapple weed ragweed smartweed	¼ - 1/2 (0.09375 - 0.187 lb ai/acre)
sowthistle, annual+ Thistle, Canada+	1/3 - ½ (0.125 - 0.187 lb ai/acre)

+Suppression only

**Specific Use Restrictions:**

- Make 1 to 2 broadcast application per crop per year, not to exceed a total of ½ pint per acre (0.187 lb ai/acre) per year.
- Preharvest Interval: Do not apply within 30 days of harvest.

**Broadcast Application Rates:**

Apply uniformly with ground equipment in a minimum of 10 to 40 gallons of water per acre. For suppression of Canada thistle, apply after the majority of basal leaves have emerged but prior to bud stage and at least 30 days prior to harvest.

**Tank Mixtures:**

CLOPYRALID MEA AG may be tank mixed with other herbicides Labeled for use on Brassica (Cole) leafy vegetables. Follow the Directions for Use of the labeling for any tank mix partner used in tank mixture with this product.

**CANOLA (RAPESEED) AND CRAMBE**

**Application Timing:**

Apply to canola or crambe in the 2 to 6 leaf stage of crop growth at rates shown in the following table. Consult the table entitled Guidelines for Control of Specific Weeds for additional information. Apply CLOPYRALID MEA AG uniformly with ground or aerial equipment in 10 to 20 gallons total spray volume per acre (minimum of 5 gallons per acre by air).

**Target Broadleaf Weeds and Application Rates**

Target Broadleaf Weeds	Application Rate (pint/acre)
thistle, Canada	1/3 for top growth suppression

thistle, Canada sowthistle, perennial	1/2 for season long control
buckwheat, wild chamomile, false chamomile, mayweed dandelion dock, curly nightshade species, smartweed, green sowthistle, annual sunflower wormwood, biennial	1/4 - 1/2 : : : : :

Specific Use Precautions:

- Preharvest interval: Do not apply within 50 days of harvest.
- Make 1 broadcast application per crop per year.

Tank Mixtures for Canola (Rapeseed) and Crambe:

CLOPYRALID MEA AG may be tank mixed with other herbicides labeled for use on canola and crambe. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

CHRISTMAS TREE PLANTATIONS

Application Timing:

CLOPYRALID MEA AG can be safely applied over the top of actively growing: balsam fir, blue spruce, Douglas fir, Fraser fir, grand fir, lodgepole pine, noble fir, ponderosa pine, and white pine. In the Pacific Northwest, do not apply in the first year of transplanting. (Some needle curling has been observed on 1st year transplants.) Apply to actively growing weeds. For control of annual weeds, apply CLOPYRALID MEA AG from weed emergence up to the 5-leaf stage of growth (for wild buckwheat application at 3 to 5 leaf stage of growth, but before vining, is recommended). For control of weeds such as Canada thistle and knapweeds, apply after the majority of the basal leaves have emerged up to bud stage. Later application may result in less consistent control.

Application Rate:

Apply 1/4 to 1/2 pint per acre of CLOPYRALID MEA AG for control of annual weeds. Apply 1/2 to 2/3 pint per acre of CLOPYRALID MEA AG for difficult to control weeds such as Canada thistle and knapweeds. Apply as a broadcast or band application in a minimum of 10 gallons per acre by ground application. Use the formulas under "Band Application" to determine the appropriate rate and volume per treated acre.

CLOPYRALID MEA AG may be applied as a spot treatment using a hand-held sprayer at an equivalent broadcast rate of 1/2 to 2/3 pint per acre. Refer to instructions for Spot Treatment and Hand-held Sprayers under Application Directions in the General Information section.

Specific Use Precautions:

- Re-treat as necessary, but do exceed 2/3 pint per acre of CLOPYRALID MEA AG per annual growing season.
- Blue Spruce: Do not exceed 1/2 pint per acre per annual growing season.
- Tree injury may occur with the addition of a surfactant or crop oil with CLOPYRALID MEA AG. Do not use unless previous experience shows injury is tolerable.
- Do not apply with an airblast sprayer.

## CORN (FIELD, POP AND SWEET)

CLOPYRALID MEA AG is for postemergence control of Canada thistle, Jerusalem artichoke, annual sowthistle, common sunflower, common cocklebur, giant and common ragweed, jimsonweed and other broadleaf weeds infesting field corn. Apply CLOPYRALID MEA AG at suggested timing and rates for field corn as indicated below.

### General Weed Control:

For control of common cocklebur, giant ragweed, common ragweed, sunflower, other annual weeds and Jerusalem artichoke, apply ¼ to ½ pint per acre of CLOPYRALID MEA AG from weed emergence up to the 5 leaf stage of growth. Use a higher rate listed for heavy infestations or when greater residual control is desired. Consult the table entitled Guidelines for Control of Specific Weeds for additional information.

### Control of Canada Thistle:

For effective control of Canada thistle, apply 1/3 to 2/3 pint per acre of CLOPYRALID MEA AG as a broadcast treatment to the entire infested area. Apply when the majority of thistle plants have emerged, and thistles are at least 6 to 8 inches in diameter or height up to bud stage. Cultivation can disrupt translocation to the roots of Canada thistle. For best long term control, do not cultivate before or after application. If cultivation is necessary, wait 14 to 20 days after application before cultivating to allow for thorough translocation.

Control of Canada thistle is influenced by growing conditions, density and size of thistle plant at the time of application, tillage practices used, etc. Light infestations (less than 10 plants per square yard) will generally be adequately controlled with a rate of 1/3 pint per acre. For medium to heavy infestations, (more than 10 plants per square yard) rates of 1/2 to 2/3 pint per acre are generally more effective since these Canada thistle stands involve an extensive rhizome system.

The following are general descriptions of control to be expected from each rate of application, given a medium to heavy population of Canada thistle. Control of lighter infestations may be better than that described.

- A rate of 1/3 pint per acre will suppress top growth of Canada thistle for 6 to 8 weeks. Some regrowth may occur by the end of the season, but this will not interfere with harvesting of the crop.
- A rate of 1/2 pint per acre will generally provide season long control of Canada thistle. Not all rhizomes will be killed, and some regrowth may occur by the end of the growing season.
- A rate of 2/3 pint per acre will provide season long control of Canada thistle plus suppression into the following season, resulting in a reduction of the total number of Canada thistle plants in the treated area.

## FIELD CORN

### Application Timing:

Apply CLOPYRALID MEA AG to actively growing broadleaf weeds any time after corn emergence through 24 inch tall corn. Apply with ground equipment as a postemergence broadcast or directed spray in 10 gallons or more of spray volume per acre to ensure uniform and thorough spray coverage of the weed foliage. Use only spray nozzles designed for herbicide application. The use of flat fan nozzles provide the best coverage and distribution of chemical on the plant foliage. Use spray pressures (at the bottom) recommended by nozzle manufacturers to obtain desired spray volume. Use higher spray volumes when weed foliage is dense.

### Specific Use Restrictions for Field Corn:

- Re-treat as necessary, but do not apply more than 2/3 pint per acre of CLOPYRALID MEA AG per year.

- Do not apply to field corn greater than 24 inches tall.
- Do not allow livestock to graze treated areas or harvest treated corn silage as feed within 40 days after last treatment.

**Tank Mixtures or Sequential Applications for Field Corn:**

See Tank Mixing Precautions under Mixing Instructions. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels. If CLOPYRALID MEA AG is applied sequentially or in combination with Hornet or Scorpion III herbicides to the current crop, the maximum application rate for CLOPYRALID MEA AG is indicated in the following tables:

Rate of Hornet Applied to Current Corn Crop (oz/acre)	Maximum Application Rate for CLOPYRALID MEA AG (fl oz/acre)
1.6	8.1
2.4	6.8
3.2	5.4
4.0	4.0

Rate of Scorpion III Applied to Current Corn Crop (lb/acre)	Maximum Application Rate for CLOPYRALID MEA AG (fl oz/acre)
0.25	8.1

Note: Maximum Use Rate for Clopyralid is 0.25 lb active ingredient per acre. One ounce of Hornet contains 0.039 lb of clopyralid. One-fourth pound of Scorpion III contains 0.0625 lb of clopyralid. One ounce of CLOPYRALID MEA AG contains 0.023 lb of clopyralid.

**Corn Inbred Lines or Breeding Stock:**

Susceptibility of corn to injury from CLOPYRALID MEA AG is highly related to varietal response. Inbred lines or any breeding stock may be injured by CLOPYRALID MEA AG. Contact your seed production agronomist for advice before applying CLOPYRALID MEA AG to inbred lines or breeding stock.

**Hand-Held Sprayers:**

CLOPYRALID MEA AG may be applied as a spot treatment using a hand-held sprayer at an equivalent broadcast rate of 2/3 pint per acre. Refer to instructions for Spot Treatment and Hand-held Sprayers under Application Directions in the General Information section. Applications should be made on a spray-to-wet basis with spray coverage uniform and complete. Do not spray to the point of runoff.

**POPCORN AND SWEET CORN**  
(Not Registered for use in California)

**Application Timing:**

Popcorn: Apply CLOPYRALID MEA AG any time after popcorn emergence through 24-inch tall popcorn.  
Sweet corn: Apply CLOPYRALID MEA AG any time after emergence through 18-inch tall sweet corn.

**Application Rate**

Apply 1/3 to 2/3 pint per acre of CLOPYRALID MEA AG uniformly with ground equipment as a broadcast or directed spray in 10 to 20 gallons total spray volume per acre. For control of Canada thistle, apply CLOPYRALID MEA AG when the majority of thistle plants have emerged and thistles are at least 6 to 8 inches in diameter or height, but before bud stage. For control of Jerusalem artichoke, common cocklebur, jimsonweed, ragweed (common and giant), annual sowthistle and sunflower, apply CLOPYRALID MEA AG to weeds from weed emergence up to the 5 leaf stage of growth. Use the higher rate listed for heavy infestations or when greater residual control is desired. Consult the table entitled Guidelines for Control of Specific Weeds for additional information.

Specific Use Precautions for Popcorn and Sweet corn:

- Preharvest interval: Do not apply within 30 days of harvest for ears and forage and 60 days of harvest for stover.
- Make 1 to 2 broadcast applications per crop per year, not to exceed a total of 2/3 pints per acre,
- Re-treatment Interval: 21 days.
- Do not apply to popcorn greater than 24 inches tall or sweet corn greater than 18 inches tall.

Tank Mixtures for Popcorn and Sweet Corn:

CLOPYRALID MEA AG may be tank mixed with other herbicides labeled for use on popcorn and sweet corn. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

CRANBERRY

Target Broadleaf Weeds	Application Rate (pint/acre)	Use Restrictions
aster clover, white Joe-pye-weed lotus narrow-leaved goldenrod pitchfork red seed vetch wild beans	1/4 - 1 (0.09375 – 0.375 lb ai/acre)	<ul style="list-style-type: none"> <li>• Do not exceed a total of 1 1/3 pint/acre (0.5 lb ai/acre) per year.+</li> <li>• Preharvest interval: Do not apply within 45 days of harvest.</li> <li>• Do not use CLOPYRALID MEA AG with a surfactant on cranberries.</li> <li>• Do not spray once bud scales have separated and the growing point is visible.</li> <li>• Do not apply within 5 feet of any water moving off or through the cranberry field.</li> </ul>

+Note: The total combined usage of CLOPYRALID MEA AG from all types of applications must not exceed 1 1/3 pint/acre (0.5 lb ai/acre).

Broadcast Application Rates: Make 1-2 broadcast applications per crop per year with a 14-day re-treatment interval. Broadcast foliar application may be made when cranberry plants are dormant or after terminal bud set. Apply with a backpack sprayer or ground broadcast equipment in a total spray volume of 20-40 gallons of water per acre. The "timing window" for broadleaf weed control is based on the physiological state of the cranberry plant. This timing window begins when the cranberry vines go dormant in the fall and ends with budbreak in the spring (first emergence of bud expansion to 2 mm) when the crop becomes sensitive to application of CLOPYRALID MEA AG. The ideal application window occurs when the weeds have emerged and have obtained sufficient canopy to allow treatment and when the cranberry plant is still dormant and tolerant to CLOPYRALID MEA AG. Broadcast foliar application between budbreak and fruit set can cause plant injury.

Wipe Treatments: Apply a 2% solution of CLOPYRALID MEA AG in water at a rate of 2.5 fl oz or 75 mL/gal. Wipe treatments may be applied as a spot application following cranberry budbreak to control late emerging weeds or weeds that escaped earlier control measures. The treatment may be applied using equipment such as a hockey stick type applicator. The treatment solution should be wiped onto weed foliage that extends well above the cranberry canopy. Contact of the treatment solution with cranberry foliage should be avoided since it will result in plant injury.

Tank Mixtures: CLOPYRALID MEA AG may be tank mixed with other herbicides labeled for use on cranberry. Follow the Directions for Use of the labeling for any tank mix partner used in tank mixture with this product.

## FALLOW CROPLAND

### Application Timing:

CLOPYRALID MEA AG can be applied either postharvest, in the spring/summer (during fallow period), or to set-aside acres to control or suppress listed weeds (refer to "Crop Rotation Restrictions" section). Apply to young, emerged weeds under conditions that promote active growth. For best results on perennial weeds such as Canada thistle, apply after the majority of the basal leaves have emerged up to bud stage. Later application may result in less consistent control. Extreme growing conditions (such as drought or near freezing temperatures) prior to, at, and following the time of application may reduce weed control. For best results, wait 14 to 20 days after application before cultivating or fertilizing with shank-type applicators to allow for thorough translocation.

### Application Rate:

Apply 1/4 to 2/3 pint per acre of CLOPYRALID MEA AG. Use the higher rate on perennial weeds or when the condition of the weeds at the time of treatment may prevent optimum control.

### Tank Mixtures for Fallow Cropland:

To improve control of certain broadleaf weeds, CLOPYRALID MEA AG may be applied with 0.5 to 2.0 lb acid equivalent (a.e.) per acre of 2,4-D. See "Tank Mixing Precautions" under "Mixing Instructions". When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

## GARDEN BEET

(Not Registered for use in California)

CLOPYRALID MEA AG is for postemergence control of wild buckwheat, sweet clover, prickly lettuce, common ragweed, nightshade (black, cutleaf, Eastern black and hairy), Galinsoga, and sowthistle, investing garden beet.

### Application Timing:

Apply to garden beet in the 2 to 8 leaf stage of crop growth when weeds are young and actively growing. Apply CLOPYRALID MEA AG to wild buckwheat at the 1 to 3 leaf stage of growth, before vining begins. Apply CLOPYRALID MEA AG to common ragweed and sweet clover from weed emergence up to the 5 leaf stage of growth. Apply CLOPYRALID MEA AG to all species of nightshade at the 2 to 4 leaf stage of growth. Apply CLOPYRALID MEA AG to sowthistle from rosette up to bud stage. Apply in 10 gallons or more total spray volume per acre with ground equipment.

### Application Rate:

Apply 1/4 to 1/2 pint per acre of CLOPYRALID MEA AG with ground equipment in 10 gallons or more total spray volume per acre. Use a higher rate listed for heavy infestations or when greater residual control is desired.

### Specific Use Precautions:

- Preharvest Interval: Do not apply within 30 days of harvest.
- Make 1 or 2 broadcast application per crop per year, not to exceed a total of 1/2 pint per acre.

### Tank Mixtures for Garden Beet:

CLOPYRALID MEA AG may be tank mixed with other herbicides labeled for use on garden beet. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

GRASSES GROWN FOR SEED

Application Timing:

Apply only to established grasses before the boot stage. Applications in the boot stage and beyond can result in increased injury. Do not apply to bentgrass unless injury can be tolerated. For control of late emerging Canada thistle, a preharvest treatment may be made after grass seed is fully developed. Treatment of Canada thistle at the bud stage or later may result in less consistent control. Postharvest fall treatments may be made to actively growing Canada thistle after the majority of basal leaves have emerged.

Application Rate:

Use 1/4 to 2/3 pint per acre of CLOPYRALID MEA AG for control of annual weeds and Canada thistle. Re-treat as necessary, but do not exceed 2/3 pint per acre of CLOPYRALID MEA AG per season.

Tank Mixtures for Grasses Grown for Seed:

CLOPYRALID MEA AG may be tank mixed with 2,4-D, MCPA, dicamba, or bromoxynil to control additional broadleaf weeds. Refer to the manufacturer's label for use rates and tank mix guidelines. See "Tank Mixing Precautions" under "Mixing Instructions". When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels. Note: Dicamba or bromoxynil tank mixes may be useful in broadening the annual weed control spectrum, but may reduce long term control of perennials such as Canada thistle. Do not tank mix CLOPYRALID MEA AG with 2,4-D, MCPA, or dicamba unless the risk to crop injury is acceptable.

HOPS

Target Broadleaf Weeds	Application Rate (pint/acre)	Use Restrictions
thistle, Canada	1/3 — 2/3 (0.125 - 0.25 lb ai/acre)	<ul style="list-style-type: none"> <li>• Do not exceed 2 broadcast applications (2/3 pints/acre, 0.25 lb ai/acre) per crop per year.</li> <li>• Retreatment Interval: 21 days.</li> <li>• Preharvest interval: Do not apply within 30 days of harvest.</li> <li>• Do not apply by air</li> </ul>

Broadcast Application Rates: Apply uniformly with ground equipment in 10 to 20 gallons of water per acre. For control of Canada thistle, apply CLOPYRALID MEA AG after the majority of basal leaves have emerged but prior to bud stage. A second application may be made as long as the total amount applied does not exceed 2/3 pint per acre of CLOPYRALID MEA AG per crop per year.

Note: Some transient minor leaf cupping may occur to lower leaves and suckers if spray comes into contact with plant.

Tank Mixtures: CLOPYRALID MEA AG may be tank mixed with other herbicides labeled for use on hops. Follow the Directions for Use of the labeling for any tank mix partner used in tank mixture with this product.



### MINT (SPEARMINT AND PEPPERMINT)

CLOPYRALID MEA AG may be used for selective postemergence control of specific annual and perennial broadleaf weeds infesting mint.

#### Application Timing:

Treat annual weeds when they are small and actively growing before they send up a flower stalk. For Canada, thistle, apply CLOPYRALID MEA AG after the majority of basal leaves have emerged but prior to bud stage.

#### Application Rate:

Apply as a broadcast foliar spray in 10 or more gallons per acre total spray volume using ground equipment only. A nonionic surfactant of at least 80% active ingredient may be added at a rate of 1 pint per 100 gallons of spray solution.

#### Broadcast Application Rates, Timing and Weeds Controlled:

Application Timing and Weeds Controlled	Application Rate Per Acre (pint/acre)
Fall Treatment Only (Sept. 15 to first frost) Annuals Perennials hard-to-kill perennials (Canada thistle, dandelion)	1/2 pint 2/3 pint 1 pint
Spring Treatment Only Annuals Perennials	1/3 pint 1/2 pint
Fall Plus Spring Treatment	Maximum of 2/3 pint in fall plus 1/3 pint in spring

#### Specific Use Precautions:

- Preharvest Interval: Do not apply within 45 days of harvest.
- Do not apply more than one pint per acre per growing season.
- Treated mint may be used for distillation (oil extraction) only.
- Do not feed spent mint hay slugs to livestock.
- Mint straw, hay or spent hay (slugs) from treated areas cannot be used for composting or mulching. If hay slugs are disposed of on cropland, distribute in a thin layer and incorporate. Do not dispose of hay slugs on land to be rotated to a susceptible crop. (See "Residues in Plants or Manure" in General Information section.)
- Discoloration or malformation of mint leaves may occur following treatment. This effect is generally temporary and does not reduce oil yields.
- CLOPYRALID MEA AG will not control many broadleaf weeds such as mustards, henbit, chickweed, kochia, lambsquarters, pigweed, Russian Thistle and field bindweed.

26/  
37

### SPINACH (Not Registered for use in California)

CLOPYRALID MEA AG is for postemergence control of clover, prickly lettuce, ragweed, Galinsoga, common cocklebur, common groundsel, jimsonweed, and pineappleweed, and postemergence suppression of annual sowthistle and Canada thistle, infesting spinach.

#### Application Timing:

Apply to spinach in the 2 to 5 leaf stage of crop growth. Apply CLOPYRALID MEA AG to clover, common cocklebur, jimsonweed and ragweed from weed emergence up to the 5 leaf stage of growth. For suppression of annual sowthistle and Canada thistle, apply CLOPYRALID MEA AG from rosette up to bud stage.

#### Application Rate:

Apply 1/6 to 1/3 pint per acre of CLOPYRALID MEA AG uniformly with ground or aerial equipment in 10 to 20 gallons of water per acre (minimum of 5 gallons per acre by air). Use the higher rate listed for heavy infestations or when greater residual control is desired.

#### Specific Use Precautions:

- Preharvest interval: Do not apply within 21 days of harvest.
- Make 1 to 2 broadcast applications per crop per year, not to exceed a total of 1/2 pint/acre.

#### Tank Mixtures for Spinach:

CLOPYRALID MEA AG may be tank mixed with other herbicides labeled for use on spinach. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

### STONE FRUITS (Not Registered for use in California)

Including: Apricot, Chickasaw Plum, Damson Plum, Fresh Prune, Japanese Plum, Nectarine, Peach, Plum, Plumcot, Sweet Cherry, Tart Cherry

CLOPYRALID MEA AG is for postemergence control of clover, horseweed, nightshade (black and hairy), annual sowthistle, Canada thistle, musk thistle and vetch infesting stone fruits.

#### Application Timing:

Apply CLOPYRALID MEA AG to clover and vetch from weed emergence up to the 5 leaf stage of growth. Apply CLOPYRALID MEA AG to nightshade (black and hairy) at the 2 to 4 leaf stager of growth. For control of Canada thistle and annual sowthistle, apply CLOPYRALID MEA AG from rosette up to bud stage.

#### Application Rate:

Apply 1/3 to 2/3 pint per acre of CLOPYRALID MEA AG with ground equipment in 10 gallons or more of total spray volume per acre. Use a higher rate listed for heavy infestations or when greater residual control is desired.

#### Specific Use Precautions:

- Pre-harvest Interval: Do not apply within 30 days of harvest.
- Make 1 to 2 broadcast applications per crop per year, not to exceed a total of 2/3 pint/acre.

#### Tank Mixtures for Stone Fruit:

CLOPYRALID MEA AG may be tank mixed with other herbicides labeled for use on stone fruit. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

## SUGARBEET

CLOPYRALID MEA AG is for the control of various annual and perennial broadleaf weeds infesting sugar beets.

### Application Rate:

Apply 1/4 to 2/3 pint per acre of CLOPYRALID MEA AG with ground equipment as a broadcast foliar spray or band treatment. See instructions for Band Application under "Application Directions" in the "General Information" section. Apply in 10 or more gallons total spray volume per acre when the sugar beets are in the cotyledon to 8-leaf stage of growth and the weeds are young and actively growing.

For annual weed control apply 1/4 to 1/2 pint per acre of CLOPYRALID MEA AG from weed emergence up to the 5-leaf stage of growth. Application to wild buckwheat should be made at the 1 to 3 leaf stage of growth, before vining begins.

For the most effective control of perennials such as Canada thistle and sowthistle, apply 1/2 to 2/3 pint per acre of CLOPYRALID MEA AG as a broadcast treatment to the entire infested area. Apply when the majority of basal leaves have emerged up to the bud stage. Cultivation can disrupt translocation to the roots of perennials such as Canada thistle. For best results do not cultivate thistle patches.

To promote herbicidal efficacy, wait a minimum of 7 days after application before flood or furrow irrigation.

### Specific Use Precautions:

Pre-harvest Interval: Do not apply within 45 days before harvest of beet roots and tops.

Re-treat as necessary but do not exceed 2/3 pint per acre of CLOPYRALID MEA AG per season.

### Tank Mixtures for Sugar beets:

To control additional broadleaf weeds and provide consistent control of difficult-to-control weeds such as wild buckwheat, labeled rates of CLOPYRALID MEA AG may be applied in combination with labeled rates of Betamix, Betanex, UpBeet, or other products registered for postemergence application in sugar beets. For best results, tank mix 1/4 pint per acre of CLOPYRALID MEA AG with Betamix or Betanex followed 1 to 2 weeks later by a second application of 1/4 to 1/3 pint per acre of CLOPYRALID MEA AG tank mixed with Betamix or Betanex. CLOPYRALID MEA AG may also be tank mixed with grass herbicides such as Poast. Crop oil or Dash surfactant may be added to the tank mixture to optimize grass weed control. See "Tank Mixing Precautions" under "Mixing Instructions". When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

## SUGAR BEETS AERIAL BROADCAST APPLICATION

(For Distribution and Use Only in the States of Colorado, Idaho, Michigan, Minnesota, Montana, Nebraska, North Dakota, Oregon, Washington, and Wyoming)

### Aerial Application:

Apply the rate of CLOPYRALID MEA AG in 5 or more gallons of total spray volume per acre when weeds are at the recommend stage of growth for control.

Note: Before aerially applying this product, read and understand Spray Drift Management and Aerial Drift Reduction Advisory section of the label. Also, read and understand information in the "General Use Precautions" section.

### TURNIP (Not Registered for use in California)

CLOPYRALID MEA AG is for postemergence control of wild buckwheat, sweet clover, prickly lettuce, common ragweed, and Galinsoga, and postemergence suppression of sowthistle infesting turnip harvested for roots and tops.

#### Application Timing:

Apply CLOPYRALID MEA AG to wild buckwheat at the 1 to 3 leaf stage of growth, before vining begins. Apply CLOPYRALID MEA AG to common ragweed and sweet clover from weed emergence up to the 5 leaf stage of growth. For suppression of sowthistle, apply CLOPYRALID MEA AG from rosette up to bud stage.

#### Application Rate:

Apply 1/3 to 1/2 pint per acre of CLOPYRALID MEA AG with ground equipment in 10 gallons or more total spray volume per acre. Use a higher rate listed for heavy infestations or when greater residual control is desired.

#### Specific Use Precautions:

- Preharvest interval: Do not apply within 30 days of harvest of turnip roots or within 15 days of turnip tops.
- Make 1 broadcast application per crop per year.

#### Tank Mixtures for Turnip:

CLOPYRALID MEA AG may be tank mixed with other herbicides labeled for use on turnip roots and tops. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

### RANGELAND and PASTURE

Rotation to Broadleaf Crops: Do not plant broadleaf crops in treated areas until an adequately sensitive bioassay shows that clopyralid is no longer detectable in the soil. (See Crop Rotation Restrictions in General Information section.)

Use CLOPYRALID MEA AG to control susceptible broadleaf weeds on rangeland areas or established forage grasses in permanent grass pastures. Best results on most weeds are obtained when weeds are small and actively growing (see specific information below) and application is made in 10 or more gallons per acre of water using ground equipment.

There are no grazing or haying restrictions following CLOPYRALID MEA AG applications when used at labeled rates.

#### Application Rates

Apply CLOPYRALID MEA AG at a rate of 1/3 to 1 1/3 pint per acre when weeds are young and actively growing.

CLOPYRALID MEA AG may be applied as described below for control of spotted and diffuse knapweed, Canada thistle, musk thistle, yellow starthistle and suppression of Russian knapweed. Use the lower labeled application rate for young, actively growing weeds. The higher rate should be used under less favorable growing conditions, or on dense weed stands and/or larger weeds. CLOPYRALID MEA AG may also be tank mixed with 2,4-D at 1/2 to 1 lb acid equivalent per acre where weed species present are susceptible to 2,4-D.

Weed Species	Rate per Acre (pint/acre)	Application Timing
Thistle, musk	1/3 – 1*	Apply from rosette to early bolt growth stage.
Thistle, artichoke Thistle, Italian	1/3 – 2/3	Apply at the rosette growth stage.
Starthistle, yellow	1/2 - 1	Apply from rosette to mid-bolt growth stage
Knapweed, diffuse Knapweed, spotted	2/3 - 1	Apply any time plants are actively growing, including fall regrowth. Optimum time is from mid bolt to late bud stage of growth.
Thistle, artichoke Thistle, Italian	2/3 - 1	Apply during the bolting growth stage.
Thistle, Canada	2/3 – 1 1/3	Apply after the majority of the basal leaves have emerged through the beginning of the bud stage. Treatment may also be applied to fall regrowth.
Russian Knapweed (suppression)	1 - 1 1/3	Apply from bud to mid-flower growth stage or treat fall regrowth.

\*CLOPYRALID MEA AG may be applied to musk thistle in the rosette stage at 1/3 pint per acre only when applied in tank mixture with 2,4-D at 1/2 to 1 lb acid equivalent per acre. Otherwise, apply CLOPYRALID MEA AG to musk thistle at 2/3 to 1 pint per acre.

PERENNIAL STRAWBERRIES

Target Broadleaf Weeds	Application Rate (pint/acre)	Use Restrictions
artichoke, Jerusalem cocklebur, common jimsonweed ragweed, common ragweed, giant sowthistle, annual sunflower thistle, Canada	2/3 (0.25 lb ai/acre)	<ul style="list-style-type: none"> <li>• Make only 1 application per crop per year.</li> <li>• Do not tank mix with other herbicides registered for use on strawberries.</li> </ul>

Broadcast Application Rates: Make one application after harvest. Apply uniformly with ground equipment in minimum of 10 gallons of water per acre. For control of Canada thistle after harvest up to early fall, apply CLOPYRALID MEA AG after the majority of basal leaves have emerged but prior to bud stage.

CONSERVATION RESERVE PROGRAM (CRP) FOR SEEDING TO PERMANENT GRASSES ONLY

Do not use CLOPYRALID MEA AG if legumes or bentgrass are a desired cover during CRP.

Conditions that stress grasses, such as drought, will increase potential for injury to the grass at all stages of growth. Do not use in newly seeded areas until grass is established.

Application Timing:

CLOPYRALID MEA AG should be applied when perennial grasses are well established as indicated by vigorous growth and development of tillers and secondary roots. At this stage, most perennial grasses have shown adequate tolerance to CLOPYRALID MEA AG. Application prior to the flowering stage is recommended (still in the bud stage).

Application Rate:

For control of actively growing weeds such as musk thistle, Canada thistle, and knapweed (spotted, diffuse, and Russian), use 2/3 to 1 1/3 pints per acre of CLOPYRALID MEA AG after the majority of basal leaves have emerged up to bud stage. For control of wild buckwheat, volunteer sunflower, and musk thistle rosettes, apply 2/3 pint per acre of CLOPYRALID MEA AG. For best results, use in 10 or more gallons of water per acre by ground. Increasing the rate of application can increase the risk of injury.

Tank Mixtures for CRP for Seeding to Permanent Grasses Only:

CLOPYRALID MEA AG can also be tank mixed with 1/2 to 1 lb per acre of 2,4-D where species present are sensitive to 2,4-D. See "Tank Mixing Precautions" under "Mixing Instructions".

NON-CROPLAND USE (ALL STATES EXCEPT CALIFORNIA)

For use on non-cropland areas such as fencerows, around farm buildings, equipment pathways, industrial manufacturing and storage sites and rights-of-way such as along roadsides, electrical power lines, communication lines, pipelines and railroads including grazed areas on these sites and forest spot application adjacent to these sites.

Cut Surface Treatments: Apply CLOPYRALID MEA AG in rights-of-way and other non-crop areas to control unwanted trees and vines in the legume family such as mimosa, locust, redbud and wisteria.

Stump Treatment: Spray or paint the cut surfaces of freshly cut stumps and stubs with a 50/50 mix of CLOPYRALID MEA AG and water. The cambium area next to the bark is the most vital area to wet. This should be done as soon as the tree or vine has been cut.

Broadcast Application (Ground or Aerial)

For control of broadleaf weeds, apply 1/4 to 1-1/3 pints per acre of CLOPYRALID MEA AG (equivalent to 0.09 to 0.5 lb acid equivalent per acre).

Non-ionic surfactant should be used in spray mixtures at 1 to 2 quarts per 100 gallons of spray mixture. The lower rate of 1/4 pint per acre provides acceptable control of weeds only under highly favorable plant growing conditions and when plants are no larger than 3 to 6 inches tall. Where Canada thistle or knapweed is the primary pest, best results are obtained by applying 2/3 to 1 1/3 pints per acre of CLOPYRALID MEA AG after basal leaves are produced. CLOPYRALID MEA AG can be applied in an invert emulsion using oil and an appropriate inverting agent. Follow label directions of the inverting agent. Established grasses are tolerant to CLOPYRALID MEA AG but new grass seedlings may be injured to varying degrees until the grass has become well established as indicated by vigorous growth and development of tillers and secondary roots.

High-Volume Leaf Stem Treatment (Ground Application)

For control of broadleaves and certain woody plants (e.g., mesquite), use 1 to 3 quarts of CLOPYRALID MEA AG per 100 gallons of total spray. Thorough coverage is necessary for good results; therefore, apply as a complete spray-to-wet foliar application, including all leaves, stems, and root collars but not to exceed a total application rate of more than 1 1/3 pints per acre of CLOPYRALID MEA AG. To minimize drift, use low spray pressure and keep sprays no higher than the tree crowns. Trees taller than 8 feet in height may be difficult to treat efficiently and obtain thorough coverage.

Unsatisfactory control may result if application is made when brush and weeds are under severe drought stress or other adverse conditions that inhibit plant growth. Environmental conditions may significantly influence results. For best results on mesquite, apply in the spring or early summer, 40 to 90 days after the first green growth appears and when soil moisture is adequate for active growth. A soil temperature of 75° to 83°F at a depth of 12 to 18 inches is optimal for good plant kills. Soil temperature of less than 75°F at this depth will reduce the ultimate root kill of mesquite.

#### NON-CROPLAND USE (CALIFORNIA ONLY)

For use on non-cropland areas such as industrial manufacturing and storage sites and rights-of-way such as along roadsides, electrical power lines, communication lines, pipelines and railroads, including grazed areas on these sites and forest spot application adjacent to these sites.

##### Broadcast Application (Ground or Aerial)

For control of broadleaf weeds, apply 1/4 to 2/3 pint per acre of CLOPYRALID MEA AG (equivalent to 0.09 to 0.25 lb a.e. per acre). Non-ionic surfactant should be used in spray mixtures at 1 to 2 quarts per 100 gallons of spray mixture. The lower rate of 1/4 pint per acre provides acceptable control of weeds only under highly favorable plant growing conditions and when plants are no larger than 3 to 6 inches tall. Where Canada thistle or knapweeds are the primary pest, best results are obtained by applying 2/3 pint per acre of CLOPYRALID MEA AG after basal leaves are produced. Spray volumes of 20 gallons or more per acre for ground roadside and rights-of-way applications and spray volumes 5 gallons or more per acre or more for aerial applications will ensure adequate coverage. CLOPYRALID MEA AG can be applied in an invert emulsion using oil and an appropriate inverting agent. Follow label directions of the inverting agent. Established grasses are tolerant to CLOPYRALID MEA AG, but new grass seedlings may be injured to varying degrees until the grass has become well established as indicated by vigorous growth and development of tillers and secondary roots.

FOREST SITES, INCLUDING TREE PLANTINGS

CLOPYRALID MEA AG herbicide may be applied for control of certain problem weeds growing in forest sites, including tree plantings: CLOPYRALID MEA AG should be applied either at site preparation or after trees are planted (tree release). CLOPYRALID MEA AG applications over-the-top of tolerant tree species may be made anytime during the season, however some needle/leaf curling may occur if applied during active tree growth. This effect is transient and trees should recover by the end of the same growing season or early in the following growing season.

Examples of tolerant tree species:

- |                |                    |                |                 |
|----------------|--------------------|----------------|-----------------|
| loblolly pine  | • grand fir        | white ash      | bur oak         |
| lodgepole pine | • noble fir        | hybrid aspen   | cherry bark oak |
| longleaf pine  | Pacific silver fir | choke cherry   | red oak         |
| ponderosa pine | incense cedar      | cherry         | sawtooth oak    |
| red pine       | Eastern red cedar  | cottonwood     | white oak       |
| Scotch pine    | Western red cedar  | crab apple     | Russian olive   |
| slash pine     | Western hemlock    | hackberry      | hybrid poplar   |
| shortleaf pine | Norway spruce      | hickory        | sumac           |
| Virginia pine  | white spruce       | European larch | sycamore        |
| white pine     | green ash          | sugar maple    | black walnut    |
| Douglas fir    |                    |                |                 |

Broadcast Applications: Apply the required amount of CLOPYRALID MEA AG in 5 or more gallons of water per acre to achieve thorough and uniform spray coverage of target weeds using ground equipment or helicopter.

CLOPYRALID MEA AG will not control mustards, henbit, chickweed, kochia, lambsquarters, pigweed, Russian thistle and bindweed.

Weed Species	CLOPYRALID MEA AG (pt/acre)	Specific Use Directions
General weed control	¼ - 1 1/3	Apply when weeds are small and actively growing. The lower rate of ¼ pt/acre provides acceptable control of weeds only under highly favorable plant growing conditions and when weeds are no more than 3 – 6 inches tall.
Canada thistle Diffuse knapweed Spotted knapweed	1/3 – 1 1/3	For best results, apply after the majority of basal leaves have emerged, up to early bud stage. Treatments applied prior to the emergence of the majority of basal leaves or at later growth stages may result in only partial control.
Bull thistle Musk thistle Yellow starthistle Hawkweeds	2/3 – 1 1/3	For best results, apply from rosette to bolting stage of growth.
Kudzu+	2/3 – 1 1/3	Applications of CLOPYRALID MEA AG herbicide are most effective between late June and early October, as long as the kudzu are actively growing and not under drought stress. The ideal time to apply CLOPYRALID MEA AG is during vigorous growth and just prior to or during flowering.



+To control kudzu in Florida, CLOPYRALID MEA AG can be used only in the following counties: Bay, Bradford, Calhoun, Escambia, Franklin, Gadsden, Gulf, Hamilton, Jackson, Jefferson, Lafayette, Leon, Liberty, Madison, Okaloosa, Santa Rosa, Suwanee, Taylor, Wakulla, Walton and Washington.

#### Spot Application:

Spot applications should be applied at an equivalent broadcast rate. Follow instructions for hand-held sprayers in Applications Directions section of the label. Direct spray onto weeds and avoid spraying trees here possible.

#### Tank-Mixing:

CLOPYRALID MEA AG may be applied in tank mix combination with Garlon\* 4, Garlon 3A, 2,4-D, atrazine, Oust or Velpar DF herbicides as per label directions for forest site uses. Carefully follow applicable directions for use, precautions and limitations on the product labels of each tank mix product used, because products other than CLOPYRALID MEA AG may cause injury when CLOPYRALID MEA AG could be used alone without injury.

#### Precautions and Restrictions:

- Applications of CLOPYRALID MEA AG over actively growing conifers may cause some needle curling. Tree injury in the form of needle curling may be increased by the addition of a surfactant or crop oil with broadcast applications of CLOPYRALID MEA AG. Do not use a surfactant or crop oil unless previous experience shows such injury can be tolerated.
- Application of CLOPYRALID MEA AG to broadleaf (hardwood) tree species may cause some leaf burning and malformation. This injury is transient in nature, except plants in the legume family (see below). Addition of surfactant or crop oil may increase the severity of this injury.
- True firs (grand, noble, and pacific silver firs) show more needle curling than other conifers when higher rates are used. Use lower rates in rate range for broadcast applications or use directed sprays where possible if needle curling is undesirable.
- Application of CLOPYRALID MEA AG to plants in the legume family (such as locust, redbud, mimosa and lupine) or to box elder, persimmon or sassafras will cause severe damage or destruction of such plants.
- Do not use in forest nursery beds.

### COTTONWOOD/POPLAR AND EUCALYPTUS TREE PLANTATIONS

CLOPYRALID MEA AG may be used for postemergence control of labeled broadleaf weeds in new and established plantings of cottonwood/poplar and eucalyptus tree plantations. Apply as a broadcast foliar spray over trees or as a banded or directed spray at a rate of 1/3 to 2/3 pints/acre. Apply in 10 or more gallons per acre total spray volume using ground equipment only. Multiple applications may be made as long as the total rate per annual use season does not exceed 1 1/3 pints/acre. Apply to new plantings only after they are well-established as indicated by several inches of new healthy growth.

#### Hand-Held Sprayers:

Spot applications using hand held equipment are also allowed, but contact with tree foliage should be avoided or limited to lower branches. Apply to weeds on a spray-to-wet basis with spray coverage uniform and complete. Do not spray to the point of run-off. Prepare a spray solution by adding 1/4 fl oz CLOPYRALID MEA AG per gallon of water. When applied at 1 gallon of spray per 1000 sq ft, this spray concentration is equivalent to a broadcast rate of 2/3 pint per acre.

#### Specific Use Precautions:

- Do not tank mix CLOPYRALID MEA AG with other herbicides labeled for this use unless applicator can insure that spray avoids all contact with tree foliage.
- CLOPYRALID MEA AG will not control certain broadleaf weeds, including mustards, henbit, chickweed, kochia, lambsquarters, pigweed, Russian thistle and bindweed.

SOUTHERN PINE SEEDBEDS IN FOREST NURSERIES  
For Control Of Sicklepod And Other Susceptible Broadleaf Weeds

For distribution and use only in the states of Alabama, Arkansas, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas and Virginia

CLOPYRALID MEA AG herbicide may be applied over-the-top of loblolly pine, slash pine, and longleaf pine to control sicklepod and other susceptible broadleaf weeds in southern pine seedbeds in forest nurseries. Apply as a broadcast or spot treatment from May through July when weeds are actively growing. Refer to the product label for CLOPYRALID MEA AG for a complete listing of weeds controlled.

Application Timing

General broadleaf weed control: For best results, apply when weeds are small and actively growing. Sicklepod: For best results, apply after the majority of basal leaves have emerged.

Application

Apply at a broadcast rate of 1/4 to 1/2 pt per acre in a spray volume of 20 or more gallons per acre. Application may be made any time after May 1, but some needle curling may occur if applied during active conifer growth. When making spot applications, use a calibrated boom, or if a hand-held sprayer is used, care should be taken to apply the spray uniformly and at a rate equivalent to a broadcast application (See guidelines in the label for CLOPYRALID MEA AG for use of hand-held sprayers). Otherwise, do not use more than 1/5 fl oz (1 tsp.) of CLOPYRALID MEA AG per gallon of spray and direct spray onto weeds and avoid spraying pine seedlings whenever possible.

Precautions:

Application of CLOPYRALID MEA AG during active growth of conifers may cause some needle curling. Do not use surfactants or crop oils in spray mixtures as the potential for tree injury in the form of needle curling may be increased.

CONTROL OF KUDZU IN UTILITY RIGHTS-OF-WAY, ROADSIDES, AND OTHER NON-CROP AREAS

Pints of CLOPYRALID MEA AG per Acre Equivalent to Rates in fl oz or mL per 1000 sq ft		
2/3 pint/acre	1 pint/acre	1 1/3 pint/acre
1/4 fl oz (7.3 mL)	3/8 fl oz (11 mL)	1/2 fl oz (15 mL)

Application Timing

For control of kudzu, apply CLOPYRALID MEA AG between late June and early October, as long as the kudzu is actively growing and not under drought stress. The ideal time to apply CLOPYRALID MEA AG is during vigorous growth and just prior to or during flowering. For best results on control of all other labeled weed species, apply CLOPYRALID MEA AG when weeds are small and actively growing. Extreme growing conditions such as drought or near freezing temperatures prior to, at, and following time of application may reduce weed control. Only weeds that have emerged at the time of application will be affected. Wet foliage at the time of application may decrease control.

The treatment with CLOPYRALID MEA AG will be rainfast within 2 hours after application.

Tank Mixtures

CLOPYRALID MEA AG may be tank mixed with labeled rates of other herbicides provided the tank mix product is labeled for the timing and method of application for the use site to be treated and tank mixing is not prohibited by the label of the tank mix product. Carefully follow applicable directions for use, precautions and limitations on the label of each product use; tank mixtures with other products may cause plant injury.

#### Broadcast Application (Ground or Aerial)

Apply at a rate of 2/3 to 1 1/3 pt/acre of CLOPYRALID MEA AG. Sequential applications may be made as long as the total rate per annual use season does not exceed 1 1/3 pt/acre. The lower rate of 2/3 pint per acre provides acceptable control of weeds only under highly favorable plant growing conditions and when plants are no larger than 3 to 6 inches tall. Spray volumes of 20 gallons or more per acre for ground, roadside and rights-of-way applications and spray volumes of 5 gallons or more per acre or more for aerial applications will ensure adequate coverage. CLOPYRALID MEA AG can be applied in an invert emulsion using oil and an appropriate inverting agent. Follow label directions of the inverting agent.

#### Spot Applications to Control Labeled Weed Species

Hand held sprayers may be used for spot applications of CLOPYRALID MEA AG if care is taken to apply the spray uniformly and at a rate equivalent to a broadcast application. When applied as a spot treatment, apply to weeds on a spray-to-wet basis (not to runoff). Contact with foliage of cottonwood/poplar trees should be avoided or limited to lower branches. Application rates in the following table are based on an area of 1000 sq ft. Mix the amount of CLOPYRALID MEA AG (fl oz or mL) corresponding to the desired rate in one or more gallons of spray. To calculate the amount of CLOPYRALID MEA AG required for larger areas, multiply the table value (fl oz or mL) by the area to be treated in "thousands" of square feet. For example, if the area to be treated is 3500 sq ft, multiply the table value by 3.5 (calculation:  $3500 = 1000 \times 3.5$ ).

### MESQUITE CONTROL

For the control of mesquite and certain associated woody species on rangeland and permanent grass pastures only in Arizona, New Mexico, Oklahoma and Texas

CLOPYRALID MEA AG will control mesquite and certain associated woody species, such as catclaw acacia and twisted acacia, on rangeland and permanent grass pastures in Arizona, New Mexico, Oklahoma and Texas. Very small amounts of this product can kill or injure sensitive broadleaf plants. To prevent accidental damage to crops and other desirable plants, follow all directions and precautions. This product affects plants directly through foliage and indirectly by root uptake from treated soil.

#### Removal of Woody Plants Following Treatment:

To maximize woody plant control, do not disturb treated plants or remove by mechanical means or by fire for at least 1 year after application.

#### Grazing:

There are no restrictions on grazing of treated areas following application of CLOPYRALID MEA AG at labeled rates. Hay harvest is not considered to be feasible for at least 1 year following application of CLOPYRALID MEA AG because of standing woody plants.

Do not spray pastures if injury to existing forage legumes or other desirable broadleaf plants cannot be tolerated. CLOPYRALID MEA AG may injure or kill legume and certain other broadleaf plants. However, the stand and growth of established perennial grasses is usually improved after spraying, especially when rainfall is adequate and grazing is deferred.

#### Timing and Factors in Control:

The herbicidal response of mesquite is strongly influenced by foliage condition, stage of growth and environmental conditions. For best results, apply when new growth foliage has turned from light to dark green, when the soil temperature is above 75°F at a depth of 12 to 18 inches, and soil moisture is adequate for plant growth. Application should be made within 60 days after the 75 F minimum soil temperature at the 12 to 18 inch depth has been reached. Product performance may be adversely affected if application is made before mesquite foliage has turned from light to dark green or if foliage has been injured or removed by late frost, insects, hail or plant diseases. Do not treat if mesquite exhibits new

(light green) terminal growth in response to recent heavy rainfall during the growing season. Rate of soil warm-up at the 12 to 18-inch depth may vary with soil texture and drainage. Coarse-textured (sandy) soils warm up sooner than fine-textured (clay) soils and dry soils warm up more quickly than wet soils.

The herbicidal symptoms of mesquite treated with CLOPYRALID MEA AG are often different from those resulting from application of other herbicides. In some years, complete brownout and leaf drop of treated mesquite may be delayed and not occur before the first frost. Other herbicidal symptoms often observed could include discoloration and rupture and/or "bleeding" of bark on branches and trunks. Reapplication during the same growing season is not recommended. Re-treatment will not be effective until woody plants have developed sufficient new foliage to intercept the spray and provide uptake adequate to control the plant when translocated to the root system. Following mechanical removal, regrowth mesquite should be at least 4 feet tall before application of CLOPYRALID MEA AG.

Control of rangeland brush or weeds may be unsatisfactory under adverse growing conditions such as severe drought stress.

**Broadcast Ground or Aerial Application:**

Use CLOPYRALID MEA AG alone or in combination with Remedy\* herbicide or Tordon\* 22K herbicide as recommended in the table below. See the General Information section for additional information.

Brush Species	Application Rates (pint/acre)	Specific Use Recommendations
mesquite	<p>1 1/3 CLOPYRALID MEA AG</p> <p>or</p> <p>2/3 - 1 1/3 CLOPYRALID MEA AG plus 1/2 - 1 of Remedy</p> <p>or</p> <p>2/3 - 1 1/3 CLOPYRALID MEA AG plus 2 of Tordon 22K</p>	<p>See Timing and Factors in Control section for information on treatment of mesquite. Apply as a water spray or oil-water emulsion (see Mixing Instructions) in a total spray volume of 4 or more gal per acre by air or 10 or more gallons per acre by ground application using higher spray volumes with increasing brush density and height.</p> <p>Note: Where control of pricklypear cactus is desired, the tank mixture of CLOPYRALID MEA AG and Tordon 22K should be used.</p>
South Texas mixed brush, including: mesquite, pricklypear, blackbrush, twisted acacia, catclaw acacia, granjeno and guajillo	<p>2/3 - 1 1/3 CLOPYRALID MEA AG plus 2 of Tordon 22K</p>	<p>See Timing and Factors in Control section of the label for information on treatment of mesquite. Apply in a spray volume of 4 or more gal per acre by air or 20 or more gallons per acre by ground application using higher spray volumes with increasing brush density and height. For best results, apply as an oil-water emulsion.</p> <p>Note: Where non-legume species such as granjeno, oaks and hackberry predominate, Remedy at 1 to 2 pt/acre may be substituted for CLOPYRALID MEA AG in the tank mixture with Tordon 22K to improve control (see label for Remedy.)</p>

**Mesquite Control in Stands of Live Oak:**

For the control of mesquite growing within stands of live oak, apply CLOPYRALID MEA AG alone at 1 1/3 pt per acre. Apply only as a water dilution containing surfactant (0.25% v/v) at a total spray volume of 4 or more gal per acre aerially. Live oak over-sprayed with CLOPYRALID MEA AG may show a 10 to 20 percent canopy reduction the year of treatment but will recover. Application of CLOPYRALID MEA AG in tank mix combination with other herbicides may result in increased injury to live oak.

Individual Plant Treatment - Leaf Spray Method:

For control of mesquite infestations of low to moderate density, CLOPYRALID MEA IVM may be applied to individual plants with backpack or hand-held sprayers or a vehicle-mounted sprayer with hand-held spray wand or spray gun. For individual plant treatment, use 2 quarts of CLOPYRALID MEA IVM in combination with 2 qt of Remedy per 100 gal of total spray solution (1/2% v/v of each product), or use CLOPYRALID MEA IVM alone at 3 qt per 100 gal of total spray solution. Apply in water or as an oil-water emulsion as described in Mixing Instructions. If using an oil-water emulsion, add the oil at a rate of 5% of the total spray volume. Apply as a complete spray-to-wet foliar application, including all leaves. Thorough coverage is necessary for good results, but it is not necessary to spray to the point of runoff. The total amount of CLOPYRALID MEA IVM applied should not exceed 1-1/3 pt per acre. For best results, follow information given previously in Timing and Factors in Control section and do not spray when mesquite foliage is wet. This application method works best for brush less than 8 feet tall since efficient treatment and thorough coverage of taller brush is difficult to achieve with this method. To minimize drift, select a spray nozzle and pressure that will provide good coverage while forming a coarse spray. Additionally, drift may be reduced by using the minimum pressure necessary to obtain plant coverage without forming a mist and by directing sprays no higher than tops of target plants. If desired, a spray dye may be added to the spray mixture to mark the treated plants.

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