

U.S. ENVIRONMENTAL PROTECTION AGENCY Office of Pesticide Programs Registration Division (7505C) 401 "M" St., S.W. Washington, D.C. 20460

EPA Reg. Number:

Date of Issuance:

42750-94

JUN 1 5 2005

Term of Issuance:

Conditional

Name of Pesticide Product:

Clopyralid MEA IVM

NOTICE OF PESTICIDE:

<u>x</u> Registration ____ Reregistration

(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

Albaugh, Inc.

1910 Exeter Road, Suite 1

Germantown, TN 38138

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

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

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

This product is conditionally registered in accordance with FIFRA sec. 3(c)(7)(A) provided that you:

- Submit and/or cite all data required for registration/ reregistration of your product when the Agency requires all registrants of similar products to submit data.
- 2. Make the following label changes listed below before you release the product for shipment:
 - Add the phrase, "EPA Reg. No. 42750-94".
 - b. IF all the Precautionary Statements cannot appear on the front panel add a referral statement similar to the following:

See back panel for additional precautionary statements.

Signature of Approving Official

toanne J. Miller

JUN 15 2005

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- b. In the Hazards to Humans section delete "Causes Moderate Eye Injury" and "Avoid breathing spray mist".
- c. If you wish, you may delete the "If in eyes:...." First Aid section. This product is in Toxicity Category IV for this route of exposure.
- d. In the Agricultural Use Requirements section delete "When applied to lawns, landscape areas, or golf courses...until sprays have dried". This product does not bear directions for application to these sites.
- e. Update the User Safety Recommendations to include:

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

- 3. Submit one (1) copy of your final printed labeling before you release the product for shipment. Refer to the A-79 enclosure for a further description of final printed labeling.
- 4. Submit the results of storage stability (GRN 830.6317) and corrosion characteristics (GRN 830.6320) studies to EPA upon completion.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records. For your assistance enclosed are copies of the scientific reviews.

Joanne I. Miller Product Manager (23) Herbicide Branch Registration Division (7505C)

Enclosure

CLOPYRALID MEA IVM

For control of broadleaf weeds and woody brush in non-cropland areas, forest sites, industrial manufacturing and storage sites, rights-of-way, and wildlife openings, including grazed areas on these sites, tree plantations, and rangeland and permanent grass pastures.

ACTIVE INGREDIENT:

Acid Equivalent: 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 ls 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-appl

EPA Est. No. xxxxx-xx-xxx

NET CONTENTS: ____ Gals.

Manufactured By: ALBAUGH, INC. ANKENY, IA 50021

ACCEPTED with COMMENTS In EPA Letter Dated:

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No.

42750-294

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PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with eyes, skin or clothing. Avoid breathing spray mists.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

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

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.

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 buying or using this product, read "Warranty Disclaimer" and "Limitation of Remedies" elsewhere on this label.

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.

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

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.

When applied to lawns, landscape areas, or golf courses, keep unprotected persons out of treated areas until sprays have dried.

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.

PLASTIC CONTAINER DISPOSAL: Do not reuse container. Triple rinse (or equivalent). Puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

METAL CONTAINER DISPOSAL: Do not reuse container. Triple rinse (or equivalent). Puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

GENERAL INFORMATION

CLOPYRALID MEA IVM* herbicide is recommended for postemergence control of broadleaf weeds and select woody brush species in non-cropland areas including 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. CLOPYRALID MEA IVM is labeled for control of broadleaf weeds in

cottonwood/poplar and eucalyptus tree plantations; and in rangeland and permanent grass pastures in certain western states.

PRECAUTIONS AND RESTRICTIONS

- In Arizona: The state of Arizona has not approved CLOPYRALID MEA IVM for use on plants grown for agricultural/commercial production; such as on designated grazing areas.
- Do not contaminate irrigation ditches or water used for irrigation or domestic purposes.
- Do not use in greenhouses.
- In California, the maximum application rate is 2/3 pint per acre per annual use season.
- In Florida, CLOPYRALID MEA IVM 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.
- Chemigation: Do not apply this product through any type of irrigation system.
- 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 IVM at labeled rates.
- 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 untreated
 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.
- Some desirable broadleaf plants (forbs) are susceptible to CLOPYRALID MEA IVM. 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 IVM, 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.
- 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 in a manner to sample field conditions such as soil texture, soil pH, drainage, and any other variable that could affect the seed bed of the new crop. Field bioassay 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, wait one year before repeating bioassay or plant a crop tolerant to clopyralid such as barley, canola (rapeseed), grasses, field corn, oats, sugar beets, or wheat.

AVOIDING INJURY TO NON-TARGET PLANTS

This product can affect susceptible broadleaf plants directly through foliar contact and indirectly by root uptake from treated soil. Therefore, do not apply CLOPYRALID MEA IVM 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. 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 IVM, 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.

AVOID SPRAY DRIFT

Avoid spray drift since very small quantities of the spray, which may not be visible, may severely injure susceptible broadleaf plants 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.

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 ½ 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.

SPRAYER CLEAN-OUT

To avoid injury to desirable plants, equipment used to apply CLOPYRALID MEA IVM herbicide should be thoroughly cleaned before reusing to apply any other chemicals.

- 1. Rinse and flush application equipment thoroughly after use at least three times with water. Dispose of rinse water in 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. Nozzles and screens should be removed and cleaned separately.

MIXING INSTRUCTIONS

Water Dilution - To prepare a water dilution of CLOPYRALID MEA IVM:

- 1. Add 3/4 of the required spray volume to the spray tank and start agitation.
- 2. Add the required amount of CLOPYRALID MEA IVM.
- 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 IVM 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. 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 IVM will be rainfast within 2 hours after application.

Application Rates:

Generally, application rates at the lower end of the recommended 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.

Use of Adjuvants:

Addition of surfactants, crop oils, or other adjuvants may increase effectiveness of CLOPYRALID MEA IVM herbicide. 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.

Cut Surface Treatments: Apply CLOPYRALID MEA IVM 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 IVM 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.

BROADLEAF WEEDS CONTROLLED

acacias

artichoke, Jerusalem buckwheat, wild buffalobur+ burdock, common

chamomile, false (scentless) chamomile, mayweed (dogfennel)

clover, black medic

clover, hop clover, red clover, white cocklebur, common coffeeweed

cornflower (bachelor button)

dandelion dock, curly

groundsel, common hawksbeard, narrowleaf hawkweed, orange hawkweed, yellow

horseweed jimsonweed knapweed, diffuse knapweed, Russian+ knapweed, spotted ladysthumb+ lettuce, prickly locoweed, lambert locoweed, white marshelder mesquite

nightshade, cutleaf nightshade, eastern black nightshade, hairy

oxeye daisy pineappleweed ragweed, common ragweed, giant

salsify, meadow (goatsbeard)

sicklepod

smartweed, green+

sorrel, red

sowthistle, annual sowthistle, perennial+ starthistle, yellow

sunflower (common and wild)

teasel, common thistle, artichoke thistle, bull

thistle, Canada (rosette to bud)

thistle, Italian

thistle, musk (rosette to bud)

vetch

+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 IVM will control the initial top growth and inhibit regrowth during the season of application (season-long control). At higher use rates shown on this label, CLOPYRALID MEA IVM 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.

WOODY PLANTS AND VINES CONTROLLED

eastern redbud

kudzu

mimosa (silktree)

wisteria

locust (spp)

BROADLEAF WEEDS CONTROLLED (California Only)

knapweed, diffuse knapweed, Russian+ knapweed, spotted starthistle, yellow thistle, artichoke

thistle. Canada (rosette to bud)

thistle, Italian

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.

NON-CROPLAND USE (ALL STATES EXCEPT CALIFORNIA)

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 1 1/3 pints per acre of CLOPYRALID MEA IVM (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 IVM after basal leaves are produced. CLOPYRALID MEA IVM 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 IVM 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 IVM 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 IVM. 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 IVM (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 IVM 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 IVM 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 IVM, 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 IVM herbicide may be applied for control of certain problem weeds growing in forest sites, including tree plantings. CLOPYRALID MEA IVM should be applied either at site preparation or after trees are planted (tree release). CLOPYRALID MEA IVM 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:

Examples of tolerar	it dee 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 IVM 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 IVM will not control mustards, henbit, chickweed, kochia, lambsquarters, pigweed, Russian thistle and bindweed.

Weed Species	CLOPYRALID MEA IVM (pt/acre)	Specific Use Directions
General weed control	1 1/3	Apply when weeds are small and actively growing. The lower rate of ½ 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		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.
Buil thistle Musk thistle Yellow starthistle Hawkweeds		For best results, apply from rosette to bolting stage of growth.
Kudzu+		Applications of CLOPYRALID MEA IVM 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 IVM is during vigorous growth and just prior to or during flowering.

⁺To control kudzu in Florida, CLOPYRALID MEA IVM 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 below. Direct spray onto weeds and avoid spraying trees where possible.

Hand-Held Sprayers: Hand-held sprayers may be used for spot applications of CLOPYRALID MEA IVM 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 IVM (fl oz or ml) corresponding to the desired broadcast rate in one or more gallons of spray. To calculate the amount of CLOPYRALID MEA IVM 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 (calculation, 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 IVM to Treat an Area of 1000 sq ft		
(Mix in one or more gallons of spray)		
2/3 pt/acre	1 pt/acre	1 1/3 pt/acre
1 /4 fì oz	3/8 fl oz	1 /2 fl oz
(7.3 ml)	(11 ml)	(15 ml)

 $^{t}1 \text{ fl oz} = 29.6 (30) \text{ ml}$

Tank-Mixing: CLOPYRALID MEA IVM 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 IVM may cause injury when CLOPYRALID MEA IVM could be used alone without injury.

Precautions and Restrictions:

- Applications of CLOPYRALID MEA IVM 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 IVM. Do not use a surfactant or crop oil
 unless previous experience shows such injury can be tolerated.
- Application of CLOPYRALID MEA IVM 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 IVM 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.

RANGELAND AND PERMANENT GRASS PASTURES

(For use in Western States, Including California, Colorado, Idaho, Montana, Nebraska, Nevada, Oregon, South Dakota, Utah, Washington and Wyoming)

Use CLOPYRALID MEA IVM 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 having restrictions following CLOPYRALID MEA IVM applications when used at labeled rates.

Application Rates

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

CLOPYRALID MEA IVM 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 IVM 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.	

Weed Species	Rate per Acre (pint/acre)	Application Timing
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 IVM 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 IVM to musk thistle at 2/3 to 1 pint per acre.

COTTONWOOD/POPLAR AND EUCALYPTUS TREE PLANTATIONS

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

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

Pints of CLOPYRALID MEA IVM 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	3/8 fl oz	1/2 fl oz
(7.3 mL)	(11 mL)	(15 mL)

Application Timing

For control of kudzu, apply CLOPYRALID MEA IVM 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 IVM 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 IVM 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 IVM will be rainfast within 2 hours after application.

Tank Mixtures

CLOPYRALID MEA IVM 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 IVM. 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 IVM 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 IVM 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 IVM (fl oz or mL) corresponding to the desired rate in one or more gallons of spray. To calculate the amount of CLOPYRALID MEA IVM 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 = 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 IVM 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 IVM at labeled rates. Hay harvest is not considered to be feasible for at least 1 year following application of CLOPYRALID MEA IVM 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 IVM 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 75²F 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 IVM 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 IVM.

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 IVM 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	1 1/3 CLOPYRALID MEA IVM or 2/3 - 1 1/3 CLOPYRALID MEA IVM plus 1/2 - 1 of Remedy or 2/3 - 1 1/3 CLOPYRALID MEA IVM plus 2/3 - 2/3 - 2/3	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. Note: Where control of pricklypear cactus is desired, the tank mixture of CLOPYRALID MEA IVM and Tordon 22K should be used.
South Texas mixed brush, including: mesquite, pricklypear, blackbrush, twisted acacia, catclaw acacia, granjeno and guajillo	2/3 - 1 1/3 CLOPYRALID MEA IVM plus 2 of Tordon 22K	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 galions per acre by ground application using higher spray volumes with increasing brush density and height. For best results, apply as an oil-water emulsion. 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 IVM in the tank mixture with Tordon 22K to improve control (see label for Remedy.)

Mesquite Control in Stands of Live Oak:

For the control of mesquite growing within stands of live oak, apply CLOPYRALID MEA IVM 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 IVM may show a 10 to 20 percent canopy reduction the year of treatment but will recover. Application of CLOPYRALID MEA IVM 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 gt 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-towet 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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- 1. Refund of purchase price paid by buyer or user for product bought, or
- 2. Replacement of amount of product used

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