Dow AgroSciences

Milestone™

Specialty Herbicide

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- **For control of susceptible broadleaf weeds, including invasive and noxious weeds, on rangeland, permanent grass pastures, Conservation Reserve Program (CRP) acres, non-cropland areas (such as roadsides), non-irrigation ditch banks, natural areas (such as wildlife management areas, wildlife openings, wildlife habitats, recreation areas, campgrounds, trailheads and trails), and grazed areas in and around these sites.**

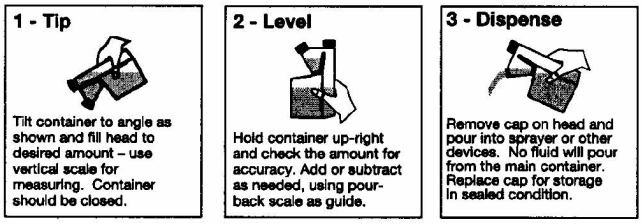
GROUP 4 HERBICIDE

Active Ingredient:	
aminopyralid: 2-pyridine carboxylic acid, 4-amino-3,6-dichloro-2-pyridinecarboxylic acid, triisopropanolammonium salt of aminopyralid	40.6%
Inert Ingredients	59.4%
Total	100.0%

Acid Equivalent: aminopyralid (4-amino-3,6-dichloropyridine-2-carboxylic acid)—21.1%—2 lb/gal

EPA Reg. No. 62719-519

Container Use Directions



KEEP OUT OF REACH OF CHILDREN
CAUTION

PRECAUTIONARY STATEMENTS

Hazard to Humans and Domestic Animals

Causes Moderate Eye Irritation

Avoid contact with eyes or clothing.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- 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.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

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. Call a poison control center or doctor for treatment advice.

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

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 washwater or rinsate.

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.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994. If you wish to obtain additional product information, visit our web site at www.dowagro.com.

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 as polyethylene or polyvinyl chloride
- Shoes plus socks

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for Agricultural Pesticides (40 CFR Part 170). The WPS does not pertain to non-agricultural use on sites, such as, rangeland, permanent grass pastures, or non-cropland. See the Agricultural Use Requirements section below for information where the WPS applies.

Entry Restrictions for Non-WPS Uses: For applications on rangeland and permanent grass pastures (not harvested for hay) and non-cropland areas, do not enter or allow worker entry into treated areas until sprays have dried.

STORAGE AND DISPOSAL

Do not contaminate water, food, feed or fertilizer by storage or disposal. Open dumping is prohibited.

Pesticide Storage: If this product is exposed to subfreezing temperatures, the active ingredient may crystallize and settle out of solution. Under these conditions the product should be warmed to at least 40˚F and agitated well to dissolve any crystallized active ingredient prior to 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 (Metal): 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.

Container Disposal (Plastic): 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.

General: Consult federal, state or local disposal authorities for approved alternative procedures.

Resistance Management Guidelines

- Development of plant populations resistant to this herbicide mode of action is usually not a problem on rangeland, permanent grass pastures, Conservation Reserve Program (CRP), or non-cropland sites since these sites receive infrequent pesticide applications.
- Similar looking biotypes of a given weed species occurring in a treated area may vary in their susceptibility to a herbicide. Application of a herbicide below its recommended rate may allow more tolerant weeds to survive and a shift to more tolerant biotypes within the treated area.
- Where identified, spreading of resistant weeds to other fields may be prevented by cleaning harvesting and tillage equipment before moving to other areas and by planting weed-free seed.
- Contact your extension specialist, certified crop consultant, or Dow AgroSciences representative for the latest resistance management information.

Rangeland, Permanent Grass Pastures and Non-Cropland Areas

Milestone™ specialty herbicide controls susceptible broadleaf weeds, including invasive and noxious weeds on rangeland, permanent grass pastures, CRP acres, non-cropland areas (such as roadsides), non-irrigation ditch banks, natural areas (such as wildlife management areas, wildlife openings, wildlife habitats, recreation areas, campgrounds, trailheads and trails), and grazed areas in and around these sites without injury to most grasses.

It is permissible to treat non-irrigation ditch banks, seasonally dry wetlands (such as flood plains, deltas, marshes, swamps, or bogs) and transitional areas between upland and lowland sites.

Use Precautions and Restrictions

- **Avoiding Injury to Non-Target Plants:** Do not aerially apply Milestone within 50 feet of a border downwind (in the direction of wind movement), or allow spray drift to come in contact with, any broadleaf crop or other desirable broadleaf plants, including, but not limited to, alfalfa, cotton, dry beans, flowers, grapes, lettuce, potatoes, radishes, soybeans, sugar beets, sunflowers, tobacco, tomatoes or other broadleaf or vegetable crop, fruit trees, ornamental plants, or soil where sensitive crops are growing or will be planted. Avoid application under conditions that may allow spray drift because very small quantities of spray may seriously injure susceptible crops. Follow Precautions for Avoiding Spray Drift and Spray Drift Advisory under General Mixing and Application Instructions to minimize the potential for spray drift.
- **Milestone is highly active against broadleaf plants.** Do not use this product on areas where loss of broadleaf plants, including legumes, cannot be tolerated.
- **Chemigation:** Do not apply this product through any type of irrigation system.
- **Do not contaminate water intended for irrigation or domestic purposes.** Do not treat inside banks or bottoms of irrigation ditches, either dry or containing water, or other channels that carry water that may be used for irrigation or domestic purposes.
- **Crop Rotation:** Do not rotate to any crop from rangeland, permanent pasture or CRP acres within one year following treatment. Do not plant a broadleaf crop until an adequately sensitive field bioassay shows that the level of aminopyralid present in the soil will not adversely affect that broadleaf crop.
- **Seeding Legumes:** Do not plant forage legumes until a soil bioassay has been conducted to determine if aminopyralid concentration remaining in the soil will adversely affect the legume establishment.
- **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 variability in field conditions such as soil texture, soil organic matter, soil pH, rainfall pattern or drainage. The field bioassay can be initiated at any time between harvest of the treated crop and the planting of the intended rotational crop. Observe the test crop for symptoms of 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 intended rotational crop; plant only to a labeled crop.
- **Aminopyralid in Plant Residues or Manure:**
  - Do not use aminopyralid-treated plant residues, including hay or straw from treated areas, or manure from animals that have grazed forage or hay harvested from treated areas within the previous 3 days, in compost or mulch that will be applied to areas where susceptible broadleaf plants may be grown.
  - Do not spread manure from animals that have grazed or consumed forage or hay from treated areas within the previous 3 days on land used for growing susceptible broadleaf crops.
  - Manure from animals that have grazed forage or hay harvested from aminopyralid-treated areas within the previous 3 days may only be used on pasture grasses, grass grown for seed, and wheat.
  - Do not plant a broadleaf crop in fields treated in the previous year with manure from animals that have grazed forage or hay harvested from aminopyralid-treated areas until an adequately sensitive field bioassay is conducted to determine that the aminopyralid concentration in the soil is at a level that is not injurious to the crop to be planted.
  - To promote herbicide decomposition, plant residues should be evenly incorporated in the surface soil or burned. Breakdown of aminopyralid in plant residues or manure is more rapid under warm, moist soil conditions and may be enhanced by supplemental irrigation.
- **Grazing and Haying Restrictions:** There are no restrictions on grazing or hay harvest following application of Milestone at labeled rates. Do not transfer grazing animals from areas treated with Milestone to areas where sensitive broadleaf crops occur without first allowing 3 days of grazing on an untreated pasture. Otherwise, urine and manure may contain enough aminopyralid to cause injury to sensitive broadleaf plants.
- **Maximum Application Rate:** On rangeland, permanent grass pastures, CRP acres, and non-cropland areas, do not apply more than 7 fl oz (0.11 lb acid equivalent) per acre of Milestone per year. The total amount of Milestone applied broadcast, as a re-treatment, and/or spot treatment per year, cannot exceed 7 fl oz per acre.

Application Methods

(Broadcast Equipment)

Ground Broadcast Application: Apply the recommended rate of Milestone as a coarse low-pressure spray. Spray volume should be sufficient to uniformly cover foliage. Increase spray volume to ensure thorough and uniform coverage when target vegetation is tall and/or dense. Higher volumes (greater than 10 gallons per acre) generally provide better coverage and better control, particularly in dense and/or tall foliage canopies situations. To enhance foliage wetting and coverage, an approved non-ionic agricultural surfactant may be added to the spray mixture as recommended by the surfactant manufacturer.

Do not apply this product with mist blower systems that deliver very fine spray droplets. Use of mist blower equipment can reduce control achieved with the herbicide and increase spray drift potential.

Aerial Broadcast Application: Apply the recommended rate of Milestone as a coarse low-pressure spray. Spray volume should be sufficient to uniformly cover foliage. Increase spray volume to ensure thorough and uniform coverage when target vegetation is tall and/or dense. Spray volumes greater than 2 gallons per acre generally provide better coverage and better control, particularly when the foliage canopy is dense and/or tall. To enhance foliage wetting and coverage, an approved non-ionic agricultural surfactant may be added to the spray mixture as recommended by the surfactant manufacturer.

(Hand-Held Equipment)

High-Volume Foliar Application: High volume foliar treatments may be applied at rates equivalent to broadcast up to a maximum of 7 fl oz per acre per annual growing season. Use sufficient spray volume to thoroughly and uniformly wet foliage and stems. To ensure thorough wetting of high volume treatments, a high quality non-ionic agricultural surfactant may be added to the spray mixture as recommended by the surfactant manufacturer. Repeat treatments may be made, but the total amount of Milestone applied must not exceed 7 fl oz per acre per year.

Spot Application: Spot treatments may be applied at rates equivalent to broadcast-applied rate of up to a maximum of 7 fl oz per acre per annual growing season. Spray volume should be sufficient to thoroughly and uniformly wet weed foliage. Use of a high quality non-ionic agricultural surfactant may be added to the spray mixture as recommended by the surfactant manufacturer. Repeat treatments may be made, but the total amount of Milestone applied must not exceed 7 fl oz per acre per year. To prevent misapplication, spot treatments should be applied with a calibrated boom, boomless spray system, hand-held, or backpack sprayers.

Spot treatments may be applied at an equivalent broadcast rate of up to 0.22 lb active ingredient (14 fl oz of Milestone) per acre per annual growing season; however, not more than 50% of an acre may be treated. Do not apply more than a total of 0.11 lb active ingredient (7 fl oz per acre of Milestone) per annual growing season as a result of broadcast, spot or repeat applications.

Application rates in the table below are based on treating an area of 1000 sq ft. An area of 1000 sq ft is about 10.5 by 10.5 yards in size. Mix the amount of Milestone (fl oz or milliliters) corresponding to the desired broadcast rate in 0.5 to 2.5 gallons of water, depending upon the spray volume required to treat 1000 sq ft. A delivery volume of 0.5 to 2.5 gallons per 1000 sq ft is equivalent to 22 to 109 gallons per acre.

Amount of Milestone per 1000 sq ft to Equal Broadcast Rate

Broadcast Rate (fl oz/acre)	Amount of Milestone per 1000 sq ft	
	(fl oz)	(Milliliters)
3	0.069	2
5	0.115	3.4
7	0.161	4.8

Note: 1 fluid ounce (fl oz) = 29.6 milliliters (ml) = 2 tablespoons = 6 teaspoons

To calculate the amount of Milestone for areas larger than 1000 sq ft: Multiply the table value (fl oz or milliliters) 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 (3500 sq ft divided by 1000 sq ft = 3.5).

Broadleaf Weed Control

Rangeland, Permanent Grass Pastures and CRP Acres

Milestone may be applied to rangeland, permanent pasture or CRP acres seeded to permanent grasses as an aerial or ground broadcast treatment, as a spot application, or as a high volume foliar application (see Application Methods section) to control susceptible broadleaf weeds, including invasive and noxious weeds (see Broadleaf Weeds Controlled section). Milestone may be applied alone or in tank mix combinations with labeled rates of other herbicides provided: (1) the tank mix product is labeled for the timing and method of application for the use site to be treated and (2) mixing is not prohibited by the label of the registered tank mixed products. When tank mixing, use only in accordance with the most restrictive precautions and limitations on the respective product labels. Follow Mixing Instructions under the General Mixing and Application Instructions section.

Do not use Milestone if loss of legumes species or other broadleaf species cannot be tolerated.

During the season of establishment, Milestone should be applied only after perennial grasses are well established (have developed a good secondary root system and show good vigor). Most perennial grasses are tolerant to Milestone at this stage of development.

Milestone may suppress certain established grasses, such as smooth bromegrass (*Bromus inermis*), especially when plants are stressed by adverse environmental conditions. Plants should recover from this transient suppression with the onset of environmental conditions favorable to grass growth and upon release from weed competition.

Non-Cropland Areas

Milestone may be applied to non-cropland areas as an aerial or ground broadcast treatment, as a spot application, or as a high volume foliar application (see Application Methods section). Milestone may be applied alone or in tank mix combinations with labeled rates of other herbicides provided: (1) the tank mix product is labeled for the timing and method of application for the use site to be treated and (2) mixing is not prohibited by the label of the registered tank mixed products. When tank mixing, use only in accordance with the most restrictive precautions and limitations on the respective product labels. Follow Mixing Instructions under the General Mixing and Application Instructions section.

Milestone, alone or in tank mix combination, is recommended for control of susceptible broadleaf weeds, including invasive and noxious weeds (see Broadleaf Weeds Controlled section) on non-cropland areas (such as roadsides), non-irrigation ditch banks, natural areas (such as wildlife management areas, wildlife

openings, wildlife habitats, recreation areas, campgrounds, trailheads and trails), and grazed areas in and around these sites and where these non-cropland sites cross rangeland and pastures or other grazed areas.

Broadleaf Weed Management Practices

Milestone may be applied postemergence as a broadcast spray or as a spot application to control broadleaf weeds including, but not limited to, those listed on this label. Postemergence applications should be made before bud stage or early flowering, unless otherwise specified. When a rate range is given, use a higher rate in the range to control weeds at advanced growth stages or under less than favorable growing conditions (e.g., drought stress). Best weed control results are obtained when spray volume is sufficient to provide uniform coverage of treated plants. For optimum uptake and translocation of the herbicide, avoid mowing, haying, shredding, burning or soil disturbance in treated areas for at least 7 days following application.

Milestone also provides preemergence control of germinating seeds or emerging seedlings of susceptible broadleaf weeds following application. Preventing establishment of susceptible weeds will depend upon application rate, season of application, and growing condition effects after application on weed seed germination and seedling emergence.

Milestone can provide long-term control of susceptible weeds. The length of control is dependent upon the application rate, condition and growth stage of target weeds, environmental conditions at and following application, and the density and vigor of competing desirable vegetation. Long-term broadleaf weed control is most effective where grass vegetation is allowed to recover from overgrazing, drought, etc., and compete with broadleaf weeds.

Milestone can be an important component of integrated vegetation management programs designed to renovate or restore desired plant communities. To maximize and extend the benefits of weed control provided by Milestone, it is important that other vegetation management practices, including proper grazing management, fertilization, prescribed fire, etc., be used in appropriate sequences and combinations to further alleviate the adverse effects of weeds on desirable plant species and to promote development of desired plant communities. Agricultural and natural resources specialists with federal and state government agencies can provide guidance on best management practices and development of integrated vegetation management programs.

Broadleaf Weeds Controlled

The following weeds will be controlled with the rates of Milestone indicated in the table. For best results, most weeds should be treated when they are actively growing and under conditions favorable for growth. Use a higher rate in the rate range when growing conditions are less than favorable or when weed foliage is tall and dense. Milestone also provides preemergence control of germinating seeds and control of emerged seedlings of susceptible broadleaf weeds following application.

Note: Numbers in parentheses (-) refer to specific use directions for a particular weeds species.

Rate Range (fl oz/acre)	Life Cycle	Plant Family
Common Name: amaranth, spiny **Scientific Name:** *Amaranthus spinosus*		
4 to 7	annual	Amaranthaceae
Common Name: broomweed, annual **Scientific Name:** *Amphiachyris dracunculoides*		
4 to 7	annual	Asteraceae
Common Name: burdock, common*, ** **Scientific Name:** *Arctium minus*		
4 to 6	biennial	Asteraceae
Common Name: buttercup, hairy* **Scientific Name:** *Ranunculus sardous*		
4 to 6	annual	Ranunculaceae
Common Name: buttercup, tall*, ** **Scientific Name:** *Ranunculus acris*		
4 to 6	perennial	Ranunculaceae
Common Name: chicory* **Scientific Name:** *Cichorium intybus*		
4 to 6	perennial	Asteraceae
Common Name: cinquefoil, sulfur (1)*, ** **Scientific Name:** *Potentilla recta*		
4 to 6	perennial	Rosaceae
Common Name: cocklebur **Scientific Name:** *Xanthium strumarium*		
3 to 5	annual	Asteraceae
Common Name: croton, tropic **Scientific Name:** *Croton glandulosus*		
3 to 5	annual	Euphorbiaceae
Common Name: cudweed, purple **Scientific Name:** *Gamochaeta purpurea*		
4 to 6	annual	Asteraceae
Common Name: daisy, oxeye (1)*, ** **Scientific Name:** *Leucanthemum vulgare*		
4 to 6	perennial	Asteraceae
Common Name: dock, curly* **Scientific Name:** *Rumex crispus*		
4 to 6	perennial	Polygonaceae
Common Name: evening primrose, cutleaf **Scientific Name:** *Oenothera laciniata*		
4 to 7	annual	Onagraceae
Common Name: fiddleneck, common **Scientific Name:** *Amsinckia intermedia*		
7	annual	Boraginaceae
Common Name: fireweed **Scientific Name:** *Epilobium angustifolium*		
5 to 7	perennial	Onagraceae
Common Name: fleabane, flax-leaf **Scientific Name:** *Conyza bonariensis*		
4 to 7	annual	Asteraceae
Common Name: hawkweed, orange (2)*, ** **Scientific Name:** *Hieracium aurantiacum*		
4 to 6	perennial	Asteraceae
Common Name: hawkweed, yellow (2)*, ** **Scientific Name:** *Hieracium caespitosum*		
4 to 6	perennial	Asteraceae
Common Name: henbit* **Scientific Name:** *Lamium amplexicaule*		
4 to 6	annual/biennial	Lamiaceae
Common Name: horsenettle, Carolina** **Scientific Name:** *Solanum carolinense*		
4 to 7	perennial	Solanaceae
Common Name: horseweed **Scientific Name:** *Conyza canadensis*		
4 to 6	annual	Asteraceae
Common Name: ironweed, tall **Scientific Name:** *Vernonia gigantea*		
5 to 7	perennial	Asteraceae
Common Name: ironweed, western **Scientific Name:** *Vernonia baldwinii*		
7	perennial	Asteraceae
Common Name: knapweed, diffuse (3)*, ** **Scientific Name:** *Centaurea diffusa*		
5 to 7	biennial/perennial	Asteraceae
Common Name: knapweed, Russian (4)*, ** **Scientific Name:** *Acroptilon repens*		
4 to 6	perennial	Asteraceae
Common Name: knapweed, spotted (3)*, ** **Scientific Name:** *Centaurea stoebe*		
5 to 7	biennial/perennial	Asteraceae
Common Name: kudzu*, ** **Scientific Name:** *Pueraria montana*		

Rate Range (fl oz/acre)	Life Cycle	Plant Family
7	perennial	Fabaceae
Common Name: lady's thumb* **Scientific Name:** *Polygonum persicaria*		
3 to 5	annual	Polygonaceae
Common Name: lambsquarters **Scientific Name:** *Chenopodium album*		
5 to 7	annual	Chenopodiaceae
Common Name: marshelder, annual **Scientific Name:** *Iva annua*		
7	annual	Asteraceae
Common Name: mayweed, scentless* **Scientific Name:** *Tripleurospermum perforata*		
4 to 6	annual	Asteraceae
Common Name: mayweed, stinking*, ** **Scientific Name:** *Anthemis cotula*		
7	annual	Asteraceae
Common Name: medic, black* **Scientific Name:** *Medicago lupulina*		
4 to 6	perennial	Fabaceae
Common Name: ragweed, common** **Scientific Name:** *Ambrosia artemisiifolia*		
3 to 5	annual	Asteraceae
Common Name: ragweed, western **Scientific Name:** *Ambrosia psilostachya*		
4 to 7	perennial	Asteraceae
Common Name: ragwort, tansy*, ** **Scientific Name:** *Senecio jacobaea*		
4 to 5	perennial	Asteraceae
Common Name: smartweed, Pennsylvania **Scientific Name:** *Polygonum pensylvanicum*		
3 to 5	annual	Polygonaceae
Common Name: sneezeweed, bitter **Scientific Name:** *Helenium amarum*		
4 to 6	annual	Asteraceae
Common Name: soda apple, tropical (5)*, ** **Scientific Name:** *Solanum viarum*		
5 to 7	perennial	Solanaceae
Common Name: sowthistle, perennial*, ** **Scientific Name:** *Sonchus arvensis*		
3 to 5	perennial	Asteraceae
Common Name: star thistle, yellow (6)*, ** **Scientific Name:** *Centaurea solstitialis*		
3 to 5	annual	Asteraceae
Common Name: sunflower, common **Scientific Name:** *Helianthus annuus*		
4 to 6	annual	Asteraceae
Common Name: teasel, fuller's* **Scientific Name:** *Dipsacus sativus*		
4 to 7	biennial	Dipsacaceae
Common Name: thistle, bull (7)*, ** **Scientific Name:** *Cirsium vulgare*		
3 to 5	biennial	Asteraceae
Common Name: thistle, Canada (8)*, ** **Scientific Name:** *Cirsium arvense*		
5 to 7	perennial	Asteraceae
Common Name: thistle, musk (7)*, ** **Scientific Name:** *Carduus nutans*		
3 to 5	biennial	Asteraceae
Common Name: thistle, plumeless (7)*, ** **Scientific Name:** *Carduus acanthoides*		
3 to 5	biennial	Asteraceae
Common Name: wormwood, absinth*, ** **Scientific Name:** *Artemisia absinthium*		
6 to 7	perennial	Asteraceae
Common Name: yarrow, common **Scientific Name:** *Achillea millefolium*		
7	perennial	Asteraceae

*Invasive plants are introduced species that are indicated to be invasive in the USDA-NRCS, PLANTS Database (http://plants.usda.gov/index.html).

**Plants designated as noxious weeds in at least one state (PLANTS Database, USDA-NRCS, http://plants.usda.gov/index.html).

1) **Sulfur cinquefoil or oxeye daisy:** Apply Milestone at 4 to 6 fl oz per acre to plants in the prebud stage of development.
2) **Orange or yellow hawkweeds:** Apply Milestone at 4 to 6 fl oz per acre to plants in the bolting stage of development.
3) **Diffuse and spotted knapweeds:** Apply Milestone at 5 to 7 fl oz per acre when plants are actively growing with the optimum time of application occurring from rosette to the bolting stages of development or in the fall.
4) **Russian knapweed:** Apply Milestone at 4 to 6 fl oz per acre to plants in the spring and summer that are in the bud to flowering stage and to dormant plants in the fall.
5) **Tropical soda apple:** Apply Milestone at 5 to 7 fl oz per acre at any growth stage, but application by flowering will reduce seed production potential.
6) **Yellow starthistle:** Apply Milestone at 3 to 5 fl oz per acre to plants at the rosette through bolting growth stages.
7) **Bull, musk and plumeless thistles:** Apply Milestone at 3 to 5 fl oz per acre in the spring and early summer to rosette or bolting plants or in the fall to seedlings and rosettes. Apply at 4 to 5 fl oz when plants are at the late bolt through early flowering growth stages.
8) **Canada thistle:** Apply Milestone at 5 to 7 fl oz per acre either in the spring to plants in the prebud growth stage or in the fall to plant regrowth.

General Mixing and Application Instructions

Mixing Instructions

Mixing with Water: To prepare the spray, add about half the required amount of water in the spray tank. Then, with agitation, add the recommended amount of Milestone and other registered tank mix herbicides. Finally, with continued agitation, add the rest of the water and additives such as surfactants or drift control and deposition aids.

Tank Mixing with Other Herbicides: Milestone at rates of up to 7 fl oz per acre may be mixed with labeled rates of other herbicides registered for application on rangeland, permanent grass pastures, CRP acres, and non-cropland areas to broaden the spectrum of weeds controlled or to improve control of certain weeds. Milestone may be applied in tank mix combination with labeled rates of other herbicides provided: (1) the tank mix product is labeled for the timing and method of application for the use site to be treated and (2) mixing is not prohibited by the label of the registered tank mixed products. When tank mixing, use only in accordance with the most restrictive precautions and limitations on the respective product labels.

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed recommended application rates. If products containing the same active ingredient are mixed, do not exceed the maximum allowable active ingredient use rates.
- For direct injection or other spray equipment where the product formulations will be mixed in undiluted form, special care should be taken to ensure tank mix compatibility.
- 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 mixing in a spray tank to ensure compatibility of Milestone and other pesticides or carriers. Use a clear glass jar with lid and mix ingredients in the same order and proportions as will be used in the spray tank.

The mixture is compatible if the materials mix readily when the jar is inverted several times. The mixture should remain stable after standing for ½ hour or, if separation occurs, should readily remix if agitated. An incompatible mixture is indicated by separation into distinct layers that do not readily remix when agitated and/or the presence of flakes, precipitates, gels, or heavy oily film in the jar. Use of an appropriate compatibility aid such as Unite or Complex may resolve mix incompatibility. If the mixture is incompatible do not use that tank mix partner in tank mixtures.

Use with Surfactants on Rangeland, Permanent Grass Pastures and CRP Acres: The addition of a high quality non-ionic surfactant at 0.25 to 0.5% volume per volume (1 to 2 quarts per 100 gallons of spray) is recommended to enhance herbicide activity under adverse environmental conditions (such as, high

temperature, low relative humidity, drought conditions, dusty plant surfaces) or when weeds are heavily pubescent or more mature.

Mixing with Sprayable Liquid Fertilizer Solutions: Milestone is usually compatible with liquid fertilizer solutions. It is anticipated that Milestone will not require a compatibility agent for mixing with fertilizers; however, a compatibility test (jar test) should be made prior to mixing. Jar tests are particularly important when a new batch of fertilizer or pesticide is used, when water sources change, or when tank mixture ingredients or concentrations are changed. Compatibility may be determined by mixing the spray components in the desired order and proportions in a clear glass jar before large scale mixing of spray components in the spray tank. **Note:** The lower the temperature of the liquid fertilizer, the greater the likelihood of mixing problems. Use of a compatibility aid may be required if Milestone is mixed with a 2,4-D-containing product and liquid fertilizer. **Mixing Milestone and 2,4-D in N-P or N-P-K liquid fertilizer solutions is more difficult than mixing with straight nitrogen fertilizer and should not be attempted without first conducting a successful compatibility jar test.** Agitation in the spray tank must be vigorous to be comparable with jar test agitation. Apply the spray mixture the same day it is prepared while maintaining continuous agitation. Rinse the spray tank thoroughly after use.

Note: Foliar-applied liquid fertilizers used as carrier for Milestone can cause yellowing of the foliage of forage grasses and other vegetation.

Sprayer Clean-Out Instructions

Do not use spray equipment used to apply Milestone for other applications to land planted to, or to be planted to, susceptible crops or desirable sensitive plants unless it has been determined that all residues of this herbicide have been removed by thorough cleaning of equipment.

Equipment used to apply Milestone should be thoroughly cleaned before reusing to apply any other chemicals as follows:

1. Rinse and flush application equipment thoroughly after use. Dispose of rinse water in non-cropland area away from water supplies.
2. Rinse a second time, adding 1 quart of household ammonia or tank cleaning agent for every 25 gallons of water. Circulate the solution through the entire system so that all internal surfaces are contacted (15 to 20 minutes). 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. Spray nozzles and screens should be removed and cleaned separately.

Precautions for Avoiding Spray Drift

Avoid application under conditions that may allow spray drift because very small quantities of spray, which may not be visible, may injure susceptible crops. This product should be applied only when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, non-target crops and other plants) is minimal (e.g., when wind is blowing away from the sensitive areas). A drift control aid may be added to the spray solution to further reduce the potential for drift. If a drift control aid is used, follow the use directions and precautions on the manufacturer's label. Do not use a thickening agent with Microfoil, Thru-Valve booms, or other spray delivery systems that cannot accommodate thickened spray solutions.

Ground Equipment: With ground equipment spray drift can be lessened by keeping the spray boom as low as possible; by applying 10 gallons or more of spray per acre; by keeping the operating spray pressures at the manufacturer's recommended minimum pressures for the specific 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 calm conditions which may be conducive to thermal inversions. Direct sprays no higher than the tops of target vegetation and keep spray pressures low enough to provide coarse spray droplets to minimize drift.

Aerial Application: Avoid spray drift at the application site. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. Users are responsible for considering all these factors when making decisions.

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

1. The distance of the outer most operating nozzles on the boom must not exceed 75% of wingspan or 90% of rotor diameter.
2. Nozzles should be pointed backward parallel with the air stream or not 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**. This information is advisory in nature and does not supersede mandatory label requirements.

Aerial Drift Reduction Advisory

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

Controlling Droplet Size:

- **Volume—**Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure—**Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles—**Use the minimum number of nozzles that will provide uniform coverage.
- **Nozzle Orientation—**Orienting nozzles so that the spray is released parallel to the airstream produced larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type—**Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length: For some use patterns, reducing the effective boom length to less than 90% of the wingspan or rotor length may further reduce drift without reducing swath width.

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

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

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

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

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

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