Specimen Label

Dow AgroSciences

Chaparral™

SPECIALTY HERBICIDE

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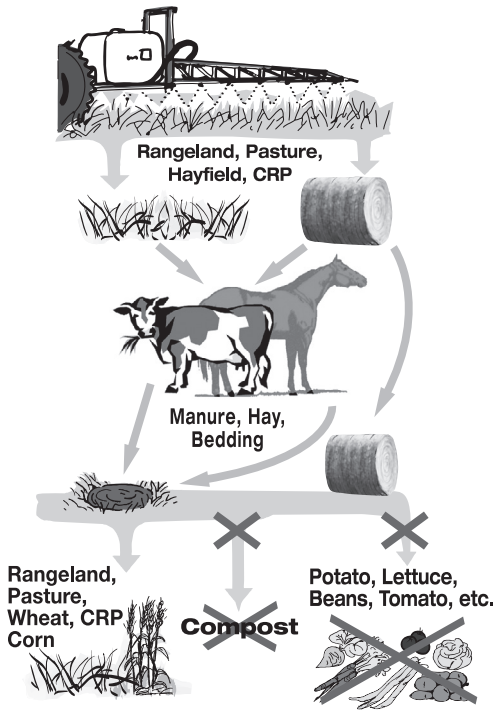
For control of susceptible weeds and certain woody plants, including invasive and noxious weeds, on rangeland, permanent grass pastures (including grasses grown for hay*), Conservation Reserve Program (CRP) acres, natural areas (such as wildlife management areas, wildlife openings, wildlife habitats, recreation areas, campgrounds, trailheads and trails), and grazed areas in and around these sites.

***Hay from grass treated with Chaparral within the preceding 18-months can only be used on the farm or ranch where the product is applied unless allowed by supplemental labeling**

IMPORTANT USE PRECAUTIONS AND RESTRICTIONS TO PREVENT INJURY TO DESIRABLE PLANTS

- Carefully read the section ***"Restrictions in Hay or Manure Use ."***
- It is mandatory to follow the ***"Use Precautions and Restrictions"*** section of this label.
- Manure and urine from animals consuming grass or hay treated with this product may contain enough aminopyralid to cause injury to sensitive broadleaf plants.
- Hay can only be used on the farm or ranch where product is applied unless allowed by supplemental labeling.
- Consult with a Dow AgroSciences representative if you do not understand the "Use Precautions and Restrictions". **Call [1-(800) 263-1196] Customer Information Group**.

Forage and Manure Management



Not For Sale, Distribution, or Use in New York State.

GROUP	2	4	HERBICIDE

Active Ingredients:

Potassium salt of 2-pyridine carboxylic acid, 4-amino-3,6-dichloro-	62.13%
Metsulfuron methyl (Methyl 2-[[[[(4-methoxy-6-methyl-1,3,5- triazin-2-yl)-amino]carbonyl] amino]sulfonyl]benzoate)	9.45%
Other Ingredients	28.42%
Total	100.0%

Acid Equivalent: aminopyralid (2-pyridine carboxylic acid, 4-amino-3, 6-dichloro-) - 52.5%

Contains 0.62 pound potassium salt of aminopyralid active ingredient (0.525 pound acid equivalent) and 0.0945 pound metsulfuron methyl per pound of product

Precautionary Statements

Hazards to Humans and Domestic Animals

EPA Reg. No. 62719-597

WARNING

Causes Substantial but Temporary Eye Injury • Harmful if Swallowed

Do not get in eyes or on clothing. Avoid contact with skin.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical resistant gloves
- 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.
- 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.

If on skin: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

If swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

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.

This chemical has the properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

Directions for Use

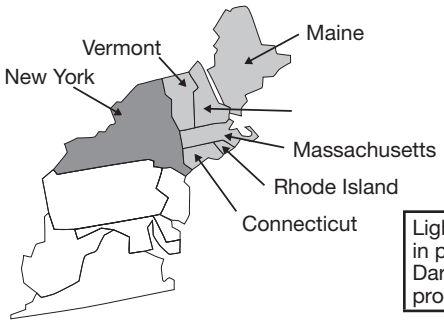
It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

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.

Not For Sale, Distribution, or Use in New York State.

Not for use on pastures in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. All other labeled uses are permitted in these states including grazed areas in and around approved use sites.



Light grey = states where use in pastures is not permitted
Dark grey = NY where the product is not registered

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 48 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 Agricultural Pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Entry Restrictions for Non-WPS Uses: Do not enter or allow people or pets to enter the treated area until sprays have dried.

Storage and Disposal

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

Pesticide Storage: Store in original container only. In case of spill, contain material and dispose as waste.

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

Nonrefillable rigid containers 5 gallons or less:

Container Handling: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: 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 or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Nonrefillable nonrigid containers:

Container Handling: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available, or dispose in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Refillable rigid containers larger than 5 gal:

Container Handling: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsiiblity of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Nonrefillable rigid containers larger than 5 gal:

Container Handling: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Storage and Disposal (Cont.)

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. 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 it back and forth several times. Empty the rinsate into application equipment or a mix tan or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: 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 or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Chaparral™ specialty herbicide may be applied by aerial or ground equipment to control susceptible broadleaf weeds and certain woody plants, including invasive and noxious weeds on rangeland, permanent grass pastures (including grasses grown for hay*), CRP acres, 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.

***Hay from grass treated with Chaparral within the preceding 18-months can only be used on the farm or ranch where the product is applied unless allowed by supplemental labeling**

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 only when dry. Chaparral can be used to the waters edge. Do not apply directly to water and take precautions to minimize overspray to open water when treating target vegetation in and around non-flowing, quiescent or transient water. When making applications to control unwanted plants on banks or shorelines of flowing water, minimize overspray to open water. Note: Consult local public water control authorities before applying this product in and around public water. Permits may be required to treat such areas.

Resistance Management Guidelines

- This product contains two herbicides with different modes of action. Development of plant populations resistant to the mode of action of aminopyralid 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. There may be resistant weed biotypes to metsulfuron and adequate control of these species cannot be expected.
- 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 labeled 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.

Use Precautions and Restrictions

Consult with a Dow AgroSciences representative if you do not understand the "Use Precautions and Restrictions." Call (1-800-263-1196) for more information.

- **Do not use grasses treated with Chaparral in the preceding 18-months for hay intended for export outside the United States.**
- **Hay from areas treated with Chaparral in the preceding 18-months CAN NOT be distributed or made available for sale off the farm or ranch where harvested unless allowed by supplemental labeling.**
- **Hay from areas treated with Chaparral in the preceding 18-months CAN NOT be used for silage, haylage, baylage and green chop unless allowed by supplemental labeling.**
- **Do not move hay made from grass treated with Chaparral within the preceding 18-months off farm unless allowed by supplemental labeling.**
- **Do not use hay or straw from areas treated with Chaparral within the preceding 18-months or manure from animals feeding on hay treated with Chaparral in compost.**
- **Do not use grasses treated with Chaparral in the preceding 18-months for seed production.**

Maximum Application Rate: On all labeled use sites do not broadcast apply more than 3.3 ounce/acre of Chaparral per year. The total amount of Chaparral applied broadcast, as a re-treatment, and/or spot treatment cannot exceed 3.3 oz of product per acre per year. Spot treatments may be applied at an equivalent broadcast rate of up to 6.6 oz product of Chaparral per acre per annual growing season; however, not more than 50% of an acre may be treated at that rate. Do not apply more than a total of 3.3 ounce/acre of Chaparral per annual growing season as a result of broadcast, spot or repeat applications.

- Do not use on Timothy hay or other cool-season grasses grown for hay**.**
- Do not apply this product on lawns, turf, ornamental plantings, urban walkways, driveways, tennis courts, golf courses, athletic fields, commercial sod operations, or other high-maintenance, fine turfgrass areas, or similar areas.
- Do not overseed ryegrass for 4 months after treatment.
- **Chaparral is highly active against many broadleaf plant species.** 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.
- Do not apply to irrigated land where the tailwater will be used to irrigate crops.
- **Do not use this product for impregnation on dry fertilizer, unless specified in Dow AgroSciences state-specific product bulletin.**
- Do not use Chaparral in the following counties of Colorado: Alamosa, Conejos, Costilla, Rio Grande, and Saquache.
- **Trees** adjacent to or in a treated site can occasionally be affected by root uptake of Chaparral. Do not apply Chaparral within the root zone of desirable trees unless such injury can be tolerated. Use special caution near roses, and leguminous trees such as locusts, redbud, mimosa, and caragana.
    - o Do not apply or drain or flush equipment on or near desirable trees or other plants, or on areas where their roots extend, or in locations where the product may be washed or moved into contact with their roots, as injury or loss of desirable trees or other plants may result.
- Applications made during periods of intense rainfall, to soils saturated with water, surfaces paved with materials such as asphalt or concrete, or soils through which rainfall will not readily penetrate may result in runoff and movement of Chaparral. Injury to crops may result if treated soil and/or runoff water containing Chaparral is washed, or moved onto land used to produce crops. Exposure to Chaparral may injure or kill susceptible crops and other plants, such as grapes, soybeans, tobacco, sensitive ornamentals. Do not treat frozen soil where runoff could damage sensitive plants.
- **Seeding Legumes:** Do not plant forage legumes until a soil bioassay has been conducted to determine if aminopyralid or metsulfuron concentration remaining in the soil will adversely affect the legume establishment.
- Under certain conditions such as heavy rainfall, high pH, prolonged cold weather, or wide fluctuations in day/night temperatures prior to or soon after Chaparral application, temporary discoloration and/or grass injury may occur. Chaparral should not be applied to grass that is stressed by severe weather conditions, drought, low fertility, water-saturated soil, disease, or insect damage, as grass injury may result. Severe winter stress, drought, disease, or insect damage before or following application also may result in grass injury.
- Do not apply to frozen ground as surface runoff may occur.
- Do not apply to snow-covered ground.
- **Grazing and Haying Restrictions:** There are no restrictions on grazing or grass hay harvest intervals following application of Chaparral at labeled rates. However, cutting hay too soon after spraying weeds will reduce weed control. Wait 14 days after herbicide application to cut grass hay to allow herbicide to work. Do not transfer grazing animals from areas treated with Chaparral 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.

- **Grazing Poisonous Plants:** Application of this product may increase palatability of certain poisonous plants. Do not graze areas treated with Chaparral until poisonous plants are dry and no longer palatable to livestock.
- **Restrictions in Hay or Manure Use:**
  - Do not use treated plant residues, including hay or straw from areas treated within the preceeding 18-months, in compost, mulch or mushroom spawn.
  - Do not use manure from animals that have grazed forage or eaten hay harvested from treated areas within the previous 3 days, in compost, mulch or mushroom spawn.
  - Do not spread manure from animals that have grazed or consumed forage or eaten 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 eaten hay harvested from treated areas within the previous 3 days may only be used on pasture grasses, grass grown for seed, wheat and corn.
  - Do not plant a broadleaf crop (including soybeans, sunflower, tobacco, vegetables, field beans, peanuts, and potatoes) in fields treated with manure from animals that have grazed forage or eaten 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 level that is not injurious to the crop to be planted.
  - Do not plant a broadleaf crop in fields treated in the previous year with manure from animals that have grazed forage or eaten hay harvested from treated areas until an adequately sensitive field bioassay is conducted to determine that the aminopyralid concentration in the soil is at 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.

Crop Rotation: Do not rotate to any crop from rangeland, permanent pasture or CRP acres within one year following treatment. Cereals and corn can be planted one year after treatment. Most broadleaf crops are more sensitive and can require **at least** 2 years depending on the crop and environmental conditions. Do not plant a broadleaf crop until an adequately sensitive field bioassay shows that the level of aminopyralid or metsulfuron present in the soil will not adversely affect that broadleaf crop.

- **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 one year after the last application of aminopyralid in that field. 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 wheat, perennial forage grasses, native grasses or grasses grown for hay.
- **Avoiding Injury to Non-Target Plants:** Do not aerially apply Chaparral 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. Read and consider the "Precautions for Avoiding Spray Drift and Spray Drift Advisory" at the end of this label to help minimize the potential for spray drift.
- To reduce the potential for movement of treated soil due to wind erosion, do not apply to powdery dry or light sandy soils until they have been stabilized by rainfall, plant residue mulch, reduced tillage, or other cultural practices. Injury to immediately adjacent crops may occur when treated soil is blown onto land used to produce crops other than pasture, rangeland or CRP.

Sprayer Clean-Out Instructions

It is recommended to use separate spray equipment on highly sensitive crops such as tobacco, soybeans, peanuts and tomatoes.

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

Equipment used to apply Chaparral 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.

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.

Application Methods

Apply the specified rate of Chaparral as a coarse low-pressure spray. Do not apply this product with mist blower systems that deliver very fine spray droplets. 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. To enhance foliage wetting and coverage, an approved non-ionic agricultural surfactant may be added to the spray mixture as specified by the surfactant label.

Ground Broadcast Application: Higher spray volumes (greater than 10 gallons per acre) generally provide better coverage and better control, particularly in dense and/or tall foliage.

Aerial Broadcast Application: Do not apply less than 2 gallons per acre total spray volume. Five gallons per acre or greater will generally provide better coverage and better control, particularly in dense and/or tall foliage.

High-Volume Foliar Application: High volume foliar treatments may be applied at rates equivalent to a maximum of 3.3 ounces per acre annual growing season. Use sufficient spray volume to thoroughly and uniformly wet foliage and stems.

Spot Application: Spot treatments may be applied at an equivalent broadcast rate of up to 6.6 oz of product per acre per annual growing season; however, not more than 50% of an acre may be treated at that rate. Do not apply more than a total of 3.3 ounce/acre of Chaparral per annual growing season as a result of broadcast, spot or repeat applications. Spray volume should be sufficient to thoroughly and uniformly wet weed foliage, but not to the point of runoff. Repeat treatments may be made, but the total amount of Chaparral applied must not exceed 3.3 ounce/acre per year.
To prevent misapplication, spot treatments should be applied with a calibrated sprayer**.**

In general for spot treatments, mix 2.5 oz for weeds and 3.3 oz for brush of Chaparral per 100 gallons of water (assuming an application volume of 100 gallons per acre).

Product Measurement

Chaparral is measured using the Chaparral volumetric measuring cylinder. Scales calibrated in ounces may also be used.

Mixing Instructions

1. Fill the tank 1/4 to 1/3 full of water (If using liquid nitrogen fertilizer solution in place of water, see Tank Mixtures sections for additional details).
2. While agitating, add the required amount of Chaparral.
3. Continue agitation until the Chaparral is fully dispersed, at least 5 minutes.
4. Once the Chaparral is fully dispersed, maintain agitation and continue filling tank with water. Chaparral should be thoroughly mixed with water before adding any other material.
5. As the tank is filling, add tank mix partners (if desired) then add the necessary volume of spray adjuvants. Always add spray adjuvants last.
6. If the mixture is not continuously agitated, settling will occur. If settling occurs, thoroughly re-agitate before using.
7. Apply Chaparral spray mixture within 24 hours of mixing to avoid product degradation.
8. If Chaparral and a tank mix partner are to be applied in multiple loads, pre-slurry the Chaparral inclean water prior to adding to the tank. This will prevent the tank mix partner from interfering with the dissolution of the Chaparral.

Soil pH Limitations

Chaparral should not be used on soils having a pH above 7.9, as extended soil residual activity could extend crop rotation intervals beyond normal. Under certain conditions, Chaparral could remain in the soil for 34 months or more injuring wheat and barley. In addition, other crops planted in high-pH soils can be extremely sensitive to low concentrations of Chaparral.

Checking Soil pH
Before using Chaparral, determine the soil pH of the areas of intended use. To obtain a representative pH value for the test area, take several 0" to 4" samples from different areas of the field and analyze them separately. Consult local extension publications for additional information on recommended soil
sampling procedures.

Spray Adjuvants
Unless otherwise directed, applications of Chaparral must include either a crop oil concentrate or a nonionic surfactant. In addition, an ammonium nitrogen fertilizer can be used unless specifically prohibited by tank mix partner labeling. If another herbicide is tank mixed with Chaparral, select adjuvants authorized for use with both products. Products must contain only EPA-exempt ingredients (40 CFR 1001).

Petroleum Crop Oil Concentrate (COC) or Methylated Seed Oil (MSO)
- Apply at 1% v/v (1 gallon per 100 gallons spray solution) or 2% under arid conditions.
- MSO adjuvants may be used at 0.5% v/v (0.5 gallons per 100 gallons spray solution) if specifically noted on adjuvant product labeling.
- Oil adjuvants must contain at least 80% high quality, petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers.

Nonionic Surfactant (NIS)
- Apply at 0.25% v/v (1 quart per 100 gallons spray solution) or 0.5% under arid conditions.
- Surfactant products must contain at least 60% nonionic surfactant with a hydrophilic/lipophilic balance (HLB) greater than 12.

Ammonium Nitrogen Fertilizer
- Use 2 quarts/acre of a high-quality urea ammonium nitrate (UAN), such as 28%N or 32%N, or 2 pounds/acre of a spray grade ammonium sulfate (AMS). Use 4 quarts/acre UAN or 4 pounds/acre AMS under arid conditions.
- Pensacola bahiagrass control can be reduced when Chaparral is applied in liquid fertilizer solutions.

Mixing With Liquid Nitrogen Solution Fertilizer

Liquid nitrogen fertilizer solutions may be used as a carrier in place of water. Run a tank mix compatibility test before mixing Chaparral in fertilizer solution.

Chaparral must first be slurried with water and then added to liquid nitrogen solutions (e.g., 28-0-0, 32-0-0). Ensure that the agitator is running while the Chaparral is added. Use of this mixture may result in temporary grass yellowing and stunting.

If using low rates of liquid nitrogen fertilizer (less than 50% of the spray solution volume) in the spray solution, the addition of a non-ionic surfactant is necessary. Add surfactant at 1/4 pt per 100 gal of spray solution (0.03% v/v).

Do not use a spray adjuvant other than non-ionic surfactant. When using high rates of liquid nitrogen fertilizer (greater than or equal to 50% of the spray solution volume) in the spray solution, adding spray adjuvant(s) increases the risk of grass injury. Consult your agricultural dealer, consultant, fieldman, or Dow AgroSciences representative for a specific recommendation before adding an adjuvant to these tank mixtures.

If 2,4-D or MCPA is included with Chaparral and the fertilizer mixture, ester formulations tend to be more compatible (See manufacturer's label). Do not add spray adjuvants when using Chaparral in tank mix with 2,4-D ester and liquid nitrogen fertilizer solutions.

Do not use low rates of liquid fertilizer as a substitute for spray adjuvants. Do not use with liquid fertilizer solutions with a pH less than 3.0.

Special Adjuvant Types
- Combination adjuvant products may be used at doses that provide the required amount of NIS, COC, MSO and/or ammonium nitrogen fertilizer. Consult product literature for use rates and restrictions. Exception: On tall fescue pastures use a reduced rate of 1/2 to 1 pint non-ionic surfactant per 100 gallons.
- Antifoaming agents may be used if needed.
- Do not use Chaparral with spray additives that reduce the pH of the spray solution to below 3.0.

Tank Mixing with Other Herbicides: Chaparral at rates of up to 3.3 ounce/acre may be mixed with labeled rates of other herbicides registered for application on all labeled use sites. Chaparral 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, and (3) that the tank-mix combination is physically compatible (see tank-mix compatibility testing below). When tank mixing, use only in accordance with the restrictions, 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 specified 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: Perform a jar test prior to mixing in a spray tank to ensure compatibility of Chaparral 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 1/2 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 may resolve mix incompatibility. If the mixture is incompatible do not use that tank mix partner in tank mixtures.
Note: Foliar-applied liquid fertilizers themselves can cause yellowing of the foliage of forage grasses and other vegetation.

Seeding grasses:
Preemergence: In general, Chaparral may be applied in the spring or early summer, depending on the target weed species, as a broadcast application over grass that was planted at least 4 months prior to the application and that has been growing under favorable conditions for grass establishment.
With fall applications, do not plant grasses the following spring.
Do not overseed ryegrass for 4 months after treatment.

Application Timing – Established Pastures, Rangeland and CRP

Chaparral may be applied to established native grasses such as wheatgrasses, bluestems and grama, and on other established pasture grasses such as bermudagrass, bluegrass, orchardgrass, bromegrass, and tall fescue that were planted the previous growing season (or earlier) and are fully tillered, unless otherwise directed on this label. Specific application timing information on several of these grass species follows:
- Chaparral 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.
- Varieties and species of forage grasses differ in their tolerance to herbicides. When using Chaparral on a particular grass for the first time, limit use to a small area. If no injury occurs throughout the season, larger acreage may be treated.
- Application of Chaparral to Pensacola bahiagrass, ryegrass (Italian or perennial) and Garrison's creeping foxtail may cause severe injury to and/or loss of pastures.

Tall Fescue Precautions:
Chaparral may stunt tall fescue, cause it to turn yellow, or cause seed head suppression. To minimize these symptoms, take the following precautions:
- do not use on tall fescue grown for seed
- do not use more than 2 ounce/acre of Chaparral
- tank-mix Chaparral with 2,4-D
- use a reduced rate of non-ionic surfactant at 1/2 to 1 pint per 100 gallons of spray solution (1/16 to 1/8% v/v)
- make application later in the spring after the new growth is 5 to 6 inches tall (until after reproductive culm has started to elongate), or in the fall
- do not use surfactant when liquid nitrogen is used as a carrier
- do not use a spray adjuvant other than non-ionic surfactant

Initial grass yields may be reduced due to fescue seed head suppression resulting from treatment with Chaparral at labeled rates. However, this could be beneficial because in tall fescue infected with the fungal endophyte *(Neotyphodium* spp.), the endophyte is concentrated in the seed and cattle grazing plants with the seed head will get the maximum exposure to the endophyte. Increased levels of ingestions of the fungal endophyte can reduce weight gain and conception rates in cattle. Since the first grazing is often delayed in the spring until long after seed head development, Chaparral could potentially be used to reduce development of the seed head, thereby reducing the amount of the endophyte that would be consumed by livestock when grazing (see below).

Tall Fescue Seed Head Suppression and Broadleaf Weed Control: Chaparral herbicide can be used to reduce the number of seed heads of tall fescue when applied prior to flower emergence. For best results apply 2.0 to 2.5 ounce/acre Chaparral after initial greenup when grass height is approximately 6 inches. Later applications may still be effective, however, the seed head suppression will be less effective and the number of seed heads could be noticeable higher. Many weed species can be controlled with this application timing in addition to the suppression of seed head development.

Use Rates and Timing

Chaparral may be applied post emergence as a broadcast spray or as a spot application to control weeds and brush including, but not limited to, those listed on this label. When a rate range is given use the higher rate to control weeds at advanced growth stages, or under less than favorable growing conditions, or for longer residual control. Best results are obtained when spray volume is sufficient to provide uniform coverage of treated weeds. For optimum uptake and translocation of Chaparral, avoid mowing, haying, shredding, burning or soil disturbance in treated areas for at least 14 days following application.

Chaparral also provides preemergence control of emerging seedlings of susceptible weeds, and re-growth of certain perennial weeds following application. Preventing establishment of weeds will depend upon application rate, season of application, and environmental conditions after application.

Chaparral 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 weed control is most effective where grass vegetation is allowed to recover from overgrazing, drought, etc., and compete with weeds.

Chaparral 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 Chaparral, it is important that other vegetation management practices, including proper grazing management, biological control agents, replanting, 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.

Species Controlled

Table 1: Grass Weeds Controlled or Supressed by Chaparral
Note: Weeds marked with a * indicate more information is included in the specific weed problems section after the table.

Grass Weeds Controlled by Chaparral

Weed Species				Chaparral rate oz product/a
Common Name	**Scientific Name**	**Life Cycle**	**Plant Family**	
arrowgrass, seaside‡	*Trifglochin maritima*	perennial	Juncaginaceae	**3.0-3.3**
bahiagrass, Pensacola*	*Paspalum notatum Flugge*	perennial	Poaceae	**2.0-2.5**
ryegrass	*Lolium multiflorum*	annual	Poaceae	**2.0-2.5**

‡: This symbol denotes weed suppression which is a reduction in weed competition compared to untreated areas. A second treatment may be necessary.

Pensacola bahiagrass control in established Bermudagrass pasture: Apply Chaparral at 2-2.5 ounce/acre after green-up in the spring, but before bahiagrass seedhead formation. Application should be made when environmental conditions favor grass growth.

Bahiagrass suppression could take up to 30 days before the desired level of control is achieved. Application of 2,4-D mixed with Chaparral could decrease bahiagrass control.

In pastures severely infested with bahiagrass, a positive response in forage yield may be slowed until desired forage grasses, like bermudagrass, grow into areas previously infested with bahiagrass. To reduce this effect consider treating different portions of heavily infested pastures with Chaparral over a period of several years. Do not apply Chaparral to an entire farm or ranch in one year. Fertilization and/or replanting may accelerate bermudagrass recovery following bahiagrass control with Chaparral.

Bahiagrass regrowth may occur in pastures heavily infested with bahiagrass, intense grazing pressure, or when adverse environmental conditions (heat and drought), slows the recovery of desired grass forages.

Chaparral will not control common or Argentine bahiagrass.

Pensacola bahiagrass control can be reduced when Chaparral is applied in liquid fertilizer solutions.

General Mix of Broadleaf Weeds: Chaparral at 2.0 ounce/acre is the standard rate to provide control of most pasture weeds when applied early in the season. If a certain weed is dominant in the pasture, use the rate in Table 2 for that species. The addition of 0.5 lbs ae/acre (1 pint/acre of 4 lb ae/gallon 2,4-D) 2,4-D amine may broaden the weed spectrum.

For rates for specific weeds, see Table 2. The life cycle is included for each weed species. The general timing of application for each life cycle is as follows:
Annuals: Use lower rates when weeds are less than 6 inches and actively growing. Increase rate as season progresses and plants become more mature.
Biennials: Apply in the spring and early summer to rosette or bolting plants or in the fall to seedlings and rosettes before ground is frozen. Use higher rates after bolting through early flower.
Perennials: Apply to vegetative stage prior to bloom. Use higher rate when weeds are larger.

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 indicated when growing conditions are less than favorable (drought conditions), weeds are large and mature, weed density and foliage cover is high and canopy height is tall, or when residual control is desired. Chaparral also provides preemergence control of germinating seeds or seedlings of susceptible weeds following application.

Table 2: Broadleaf Species Controlled with Chaparral
Note: Weeds marked with a * indicate more information is included in the specific weed problems section after the table.

Broadleaf Weeds Controlled by Chaparral

Weed Species				Chaparral rate oz product/a
Common Name	**Scientific Name**	**Life Cycle**	**Plant Family**	
actinomeris, wingstem	*Verbesina alternifolia*	perennial	Asteraceae	**3.0**
alyssum, hoary	*Berteroa incana*	biennial	Brassicaceae	**2.0-2.5**
amaranth, spiny	*Amaranthus spinosus*	summer annual	Amaranthaceae	**1.5-2.0**
aster	*Aster spp.*	perennial	Asteraceae	**1.5-2.0**
babysbreath	*Gypsophila paniculata*	perennial	Caryophyllaceae	**2.5-3.0**
bedstraw	*Galium spp.*	perennial	Rubiaceae	**2.0-2.5**
beggarticks	*Bidens spp.*	annual	Asteracea	**2.0-3.0**
bittercress	*Cardimane spp*	perennial	Brassicaceae	**2.0-2.5**

Broadleaf Weeds Controlled by Chaparral (Cont.)

Weed Species				Chaparral rate oz product/a
Common Name	**Scientific Name**	**Life Cycle**	**Plant Family**	
blackeyed-Susan	*Rudbeckia hirta*	annual	Asteraceae	**1.5-2.0**
brackenfern	*Pteridiums spp.*	perennial	Dennstaedtiaceae	**2.5-3.3**
broomweed, annual	*Amphiachyris dracunculoides*	annual	Asteraceae	**1.0-1.5**
bur buttercup (testiculate)	*Ranunculus testiculatus*	annual	Ranunculaceae	**1.0-1.5**
burclover	*Medicago spp*	annual	Fabaceae	**1.5-2.0**
burdock, Common	*Arctium minus*	biennial	Asteraceae	**2.0-2.5**
buttercup, hairy	*Ranunculus sardous*	perennial	Ranunculaceae	**1.0-1.5**
buttercup, tall	*Ranunculus acris*	perennial	Ranunculaceae	**2.0-2.5**
camelthorn	*Alhagi pseudalhagi*	perennial	Fabaceae	**2.0-3.0**
cat's ear, common	*Hypochaeris radicata*	perennial	Asteraceae	2.5-3.3
camphorweed	*Heterotheca subaxillaris*	summer annual	Asteraceae	**2.0-3.0**
campion, bladder‡	*Silene vulgaris*	perennial	Caryophyllaceae	**2.0-2.5**
caraway, wild	*Carum carvi*	biennial	Apiaceae	**2.5-3.0**
carrot, wild	*Daucus carota*	biennial	Apiaceae	**2.0-2.5**
catchfly, conical	*Silene conoidea*	annual	Caryophyllaceae	**1.0-1.5**
chamomile	*Matricaria spp*	annual	Asteraceae	**2.5-3.0**
chickweed, common	*Stellaria media*	Winter annual	Caryophyllaceae	**3.0**
chicory	*Cichorium intybus*	perennial	Asteraceae	**1.5-2.0**
cinquefoil*	*Potentilla spp*	perennial	Rosaceae	**2.0-2.5**
clover, sweet	*Melilotus officinalis*	biennial	Fabaceae	**2.5-3.0**
clover, white	*Trifolium repens*	perennial	Fabaceae	**1.5-2.0**
cockle, corn	*Agrostemma githago*	annual	Caryophyllaceae	**2.0-3.0**
cocklebur	*Xanthium strumarium*	annual	Asteraceae	**1.5-2.0**
coreopsis, plains	*Coreopsis tinctoria*	annual	Asteraceae	**2.0-3.0**
cowcockle	*Vaccaria pyramidata*	annual	Caryophyllaceae	**1.5-2.0**
crazyweed, silky	*Oxytropis Lambertii*	perennial	Fabaceae	**2.0-2.5**
croton, woolly	*Croton capitatus*	annual	Euphorbiaceae	**1.5-2.0**
crownvetch	*Securigera varia*	perennial	Fabaceae	**1.5-2.0**
crupina, common	*Crupina vulgaris*	perennial	Asteraceae	**3.0-3.3**
cudweed, purple	*Gnaphalium purpureum*	annual	Asteraceae	**2.0-2.5**
daisy, oxeye*	*Leucanthemum vulgare*	perennial	Asteraceae	**2.5-3.3**
dandelion, common	*Taraxacum officinale*	perennial	Asteraceae	**1.5-2.0**
dock	*Rumex spp*	perennial	Polygonaceae	**2.0-2.5**
dyer's woad‡	*Istis tinctoria*	perennial	Brassicaceae	**3.3**
evening primrose, cutleaf	*Oenothera laciniata*	annual	Asteraceae	**1.5-2.0**
false dandelion, Carolina	*Tragopogon dubius*	biennial	Asteraceae	**1.5-2.0**
falseflax, Smallseed	*Camelina microcarpa*	annual/biennial	Brassicaceae	**1.5-2.0**
fiddleneck, common	*Amsinckia intermedia*	annual	Boraginaceae	**1.5-2.0**
filaree, redstem	*Erodium cicutarium*	annual/biennial	Geraniaceae	**3.0-3.3**
fireweed	*Epilobium angustifolium*	perennial	Onagracee	**2.5-3.0**
fleabane, annual	*Erigeron annus*	annual	Asteraceae	**1.5-2.0**
fleabane, hairy	*Conyza bonariensis*	annual/biennial	Asteraceae	**2.5-3.3**
garlic. wild	*Allium vineale*	perennial	Liliaceae	**1.5-2.0**
geranium, Carolina	*Geranium carolinianum*	Winter annual	Geraniaceae	**1.5-2.0**
goldenrod spp	*Solidago canadensis*	perennial	Asteraceae	**2.0-2.5**
gumweed, curlycup	*Grindelia squarrosa*	biennial	Asteraceae	**2.0-2.5**
halogeton	*Halogeton glomeratus*	annual	Chenopodiaceae	**3.0-3.3**
hawkweed, orange*	*Hieracium aurantiacum*	perennial	Asteraceae	**2.5-3.3**
hawkweed, yellow*	*Hieracium pratense*	perennial	Asteraceae	**2.5-3.3**
hemlock, poison‡	*Conium maculatum*	perennial	Apiaceae	**2.5-3.3**
henbane, black	*Hyoscyamus niger*	annual/biennial	Solanaceae	**2.5-3.0**
henbit	*Lamium amplexicaule*	annual/biennial	Lamiaceae	**2.0-2.5**
hogweed, giant	*Heracleum mantegazzianum*	perennial	Apiaceae	**3.3**
horsemint (beebalm)	*Monarda spp*	annual	Lamiaceae	**1.5-2.0**
horsenettle, Carolina	*Solanum carolinense*	perennial	Solanaceae	**2.0-2.5**
horseweed (marestail)	*Conyza canadensis*	annual	Asteraceae	**1.5-2.0**

Broadleaf Weeds Controlled by Chaparral (Cont.)

Weed Species				Chaparral rate oz product/a
Common Name	**Scientific Name**	**Life Cycle**	**Plant Family**	
houndstongue*	*Cynoglossum officinale*	biennial	Boraginaceae	**2.5-3.3**
ironweed, tall	*Vernonia gigantea*	perennial	Asteraceae	**2.0-3.0**
ironweed, western	*Vernonia baldwinii*	perennial	Asteraceae	**2.0-3.0**
knapweed	*Centaurea sp.*	biennial	Asteraceae	**2.5-3.3**
knapweed, brown	*Centaurea jacea*	perennial	Asteraceae	**2.5-3.3**
knapweed, diffuse*	*Centaurea diffusa*	biennial	Asteraceae	**2.5-3.3**
knapweed, Russian*	*Acroptilon repens*	perennial	Asteraceae	**2.5-3.3**
knapweed, spotted*	*Centaurea stoebe*	biennial	Asteraceae	**2.5-3.3**
knotweed, prostrate	*Polygonum aviculare*	annual	Polygonaceae	**3.0**
kochia*	*Kochia scoparia*	annual	Chenopodiaceae	**1.5-2.0**
lady's thumb	*Polygonum persicaria*	annual	Polygonaceae	**1.5-2.0**
lambsquarters, common	*Chenopodium album*	annual	Chenopodiaceae	**2.0-2.5**
lespedeza, annual	*Lespedeza striata*	annual	Fabaceae	**2.0-2.5**
lespedeza, sericea*	*Lespedeza cuneata*	perennial	Fabaceae	**2.5-3.0**
lettuce, Miner's	*Montia perfoliata*	annual	Portulacaceae	**1.5-2.0**
lettuce, prickly*	*Lactuca serriola*	annual	Asteraceae	**1.5-2.0**
licorice, wild	*Glycyrrhiza lepidota*	perennial	Fabaceae	**2.5-3.0**
locoweed	*Astragalus spp.*	perennial	Fabaceae	**2.0-2.5**
loosestrife, purple	*Lythrum salicaria*	perennial	Lythraceae	**3.0-3.3**
marshelder, annual‡	*Iva annua*	annual	Asteraceae	**2.0-2.5**
mayweed, scentless	*Tripleurospermum perforata*	annual	Asteraceae	**1.5-2.0**
mayweed, stinking	*Anthemis cotula*	annual	Asteraceae	**3.0-3.3**
medic, black	*Medicago lupulina*	perennial	Fabaceae	**2.0-2.5**
mexicantea	*Dysphania ambrosioides*	annual/ perennial	Chenopodiaceae	**2.0-2.5**
mullein*	*Verbascum spp.*	biennial	Scrophulariaceae	**2.0-3.3**
mustard, blue*	*Chorispora tenella*	annual	Brassicaceae	**1.5-2.0**
mustard, garlic	*Alliaria petiolata*	biennial	Brassicaceae	**3.3**
mustard, tumble/Jim Hill	*Sisymbrium altissimum*	Winter annual	Brassicaceae	**1.5-2.0**
mustard, wild	*Brassica kaber*	annual	Brassicaceae	**1.5-2.0**
needles, Spanish needles	*Bidens bipinnata*	annual	Asteraceae	**2.0-2.5**
nightshade, silverleaf	*Solanum elaeagnifolium*	perennial	Solanaceae	**2.0-3.0**
oxtongue, bristly	*Picris echioides*	biennial	Asteraceae	**2.5-3.0**
parsnip, Wild	*Pastinaca sativa*	biennial	Apiaceae	**2.0-3.0**
partridgepea	*Chamaecrista fasciculata*	annual	Fabaceae	**2.5-3.0**
pea, Swainson	*Sphaerophysa salsula*	perennial	Fabaceae	**2.0-3.0**
pepperweed, perennial‡	*Lepidium latifolium*	perennial	Brassicaceae	**3.3**
pigweeds	*Amaranthus spp*	annual	Amaranthaceae	**1.5-2.0**
plantain, broadleaf	*Plantago major*	perennial	Plantaginaceae	**2.0-2.5**
plantain, buckhorn	*Plantago lanceolata*	perennial	Plantaginaceae	**2.0-2.5**
povertyweed	*Iva axillaris*	perennial	Asteraceae	**2.0-3.0**
purslane, common	*Portulaca oleracea*	annual	Portulacaceae	**1.5-2.0**
ragweed, common	*Ambrosia artemisiifolia*	annual	Asteraceae	**2.0-2.5**
ragweed, western*	*Ambrosia psilostachya*	perennial	Asteraceae	**2.0-2.5**
ragwort, tansy	*Senecio jacobaea*	perennial	Asteraceae	**2.5-3.0**
rush skeletonweed	*Chondrilla juncea*	perennial	Asteraceae	**2.5-3.0**
salsify, Western‡	*Tragopogon dubius*	biennial	Asteraceae	**3.0-3.3**
shephardspurse	*Capsella bursa-pastoris*	Winter annual	Brassicaceae	**1.5-2.0**
sicklepod	*Senna obtusifolia*	annual	Fabaceae	**2.5-3.0**
sida, arrowleaf	*Sida rhombifolia*	annual	Malvaceae	**2-2.5**
smartweed, Pennsylvania	*Polygonum pensylvanicum*	annual	Polygonaceae	**1.5-2.0**
snakeweed, broom*	*Gutierrezia sarothrae*	perennial	Asteraceae	**3.0**
sneezeweed, bitter	*Helenium amarum*	annual	Asteraceae	**1.0-1.5**
snow-on-the-mountain	*Euphorbia marginata*	annual	Euphorbiaceae	**2.0-2.5**
soda apple, tropical*	*Solanum viarum*	perennial	Solanaceae	**2.5-3.0**
sorrel, red	*Rumex acetosella*	perennial	Polygonaceae	**2.0-2.5**
sowthistle, annual	*Sonchus oleraceae*	annual	Asteraceae	**2.5-3.0**

Broadleaf Weeds Controlled by Chaparral (Cont.)

Weed Species				Chaparral rate oz product/a
Common Name	**Scientific Name**	**Life Cycle**	**Plant Family**	
sowthistle, perennial	*Sonchus arvensis*	perennial	Asteraceae	**2.0-2.5**
sowthistle, prickly	*Sonchus asper*	annual	Asteraceae	**1.5-2.0**
spurge, spotted	*Euphorbia maculata*	Perennial	Euphorbiaceae	**1.5-2.5**
St. Johnswort, common	*Hypericum perforatum*	perennial	Clusiaceae	**2.5-3.0**
starthirstle, purple*	*Centaurea calcitrapa*	biennial	Asteraceae	**1.5-2.0**
star-thistle, Malta*	*Centaurea melitensis*	annual	Asteraceae	**1.5-2.0**
starthistle, yellow*	*Centaurea solstitialis*	annual	Asteraceae	**1.5-2.0**
sunflower, common	*Helianthus annua*	annual	Asteraceae	**1.5-2.0**
tansy, common	*Tanacetum vulgare*	perennial	Asteraceae	**2.5-3.3**
teasel	*Dipsacus spp.*	biennial	Dipsacaceae	**2.0-3.0**
thistle, Russian*	*Salsola iberica*	annual	Chenopodiaceae	**1.5-2.0**
thistle, artichoke	*Cynara cardunculus*	perennial	Asteracea	**2.0-3.0**
thistle, blessed milk	*Silybum marianum*	Biennial	Asteraceae	**2.0-3.0**
thistle, bull*	*Cirsium vulgare*	biennial	Asteraceae	**1.0-2.5**
thistle, Canada*	*Cirsium arvense*	perennial	Asteraceae	**2.0-3.3**
thistle, Italian	*Carduus pycnocephalus*	annual	Asteraceae	**2.0-3.0**
thistle, musk*	*Carduus nutans*	biennial	Asteraceae	**1.0-2.5**
thistle, plumeless*	*Carduus acanthoides*	biennial	Asteraceae	**1.0-2.5**
thistle, scotch	*Onopordum acanthium*	biennial	Asteraceae	**1.5-2.5**
thistle, woolly distaff	*Carthamus lanatus*	annual	Asteraceae	**1.5-2.0**
vervain‡	*Verbena spp.*	perennial	Asteraceae	**2.0-2.5**
vetch, common*	*Vicia sativa*	annual	Fabaceae	**1.5-2.0**
wallflower, bushy	*Erysimum repandum*	annual	Brassicaceae	**1.5-2.0**
waterpod	*Ellisia nyctelea*	annual	Brassicaceae	**1.5-2.0**
whitetop (hoary cress)*	*Cardaria draba*	perennial	Brassicaceae	**3.3**
woodsorrel, yellow	*Oxalis stricta*	perennial	Oxalidaceae	**3.0-3.3**
wormwood, absinth*	*Artemisia absinthium*	perennial	Asteraceae	**3.0-3.3**
yankeeweed	*Eupatorium compositifolium*	perennial	Asteraceae	**3.0-3.3**
yarrow, common	*Achillea millefolium*	perennial	Asteraceae	**1.5-2.0**

‡: This symbol denotes weed suppression which is a reduction in weed competition compared to untreated areas. A second treatment may be necessary. The addition of 0.5 lbs ae/acre of 2,4-D may improve intial control.

Hawkweed, orange or yellow: Apply Chaparral at 2.5 to 3.3 ounce/acre to plants in the bolting stage of development.
Houndstongue: Apply 2.5 ounce/acre to rosettes. As plant bolts, increase the rate to 3.0 to 3.3 ounce/acre up to early bud stage. Add 1 quart of 2,4-D/acre after the bud stage.
Ironweed, Western: Apply Chaparral at 2.5 to 3.0 ounce/acre when plants are in the vegetative growth stage. The addition of 0.5 to 1 lb ae/acre (1 to 2 pints/acre of 4 lb ae/gallon 2,4-D) of 2,4-D/acre will improve control in dense stands or when ironweed is greater than 6 inches.
Knapweeds, diffuse and spotted: Apply Chaparral at 2.5 to 3.3 ounce/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. Plants will be controlled by mid-summer and fall applications even though plants may not show any changes in form or stature the year of application.
Knapweed, Russian: Apply Chaparral at 2.5 to 3.3 ounce/acre to plants in the spring and summer to plants from early bud to flowering stage and to dormant plants in the fall.
Lespedeza, Sericea: Apply 2.5 to 3.0 ounce/acre beginning at flower bud initiation through the full bloom stage of growth.
Mullein: Apply 2.0 ounce/acre in the rosette stage in spring or fall. Use rates from 2.5 to 3.3 ounce/acre for bolting plants less than 12 inches tall.
Oxeye daisy: Apply Chaparral at 2.5 to 3.3 ounce/acre to plants in the prebud stage of development.
Pepperweed, perennial: Apply Chaparral at 3.3 ounce/acre plus 2 lb ae/a 2, 4-D when plants are at early flowering through bloom for optimum control.
Ragweed, Western: Apply Chaparral at 2.0 to 2.5 ounce/acre when plants are in the vegetative growth stage. The addition of 0.5 to 1 lb ae/acre (1 to 2 pints/acre of 4 lb ae/gallon 2,4-D) of 2,4-D/acre will improve control in dense stands or when ragweed is greater than 6 inches.
Russian thistle, kochia, and prickly lettuce: Naturally occurring resistant biotypes of these weeds to metsulfuron are known to occur. For best results, use Chaparral at 1.5 to 2.0 ounces/acre in tank-mix with 2,4-D. Applications to these weeds should be made early to weeds less than 6 inches in height.
Snakeweed, broom: Applications should be made in the fall at 3.0 ounces/acre. Spring applications will provide suppression only.
Soda apple, tropical: Apply Chaparral at 2.5 to 3.0 ounce/acre at any growth stage, but application by flowering will reduce seed production potential.
Starthistle, malta, purple, and yellow: Apply Chaparral at 1.5 to 2.0 ounce/acre to plants at the rosette through bolting growth stages.
Sulfur cinquefoil: Apply Chaparral at 2.0 to 2.5 ounce/acre to plants in the prebud stage of development.
Thistle, Canada: Apply Chaparral at 2.0 to 3.3 ounce/acre either in the spring after all plants have fully emerged (some may be budding) or until the oldest plants are in full flower stage. Use the higher rate when applying to the flower stage. Applications are also effective in the fall before a killing frost. Use higher rates for older/dense stands or for longer residual control.
Thistles, Bull, musk, and plumeless: Apply Chaparral at 1.0 to 2.0 ounce/acre in the spring and early summer to rosette or bolting plants or in the fall to seedlings and rosettes. Apply at 2.0 to 2.5 ounce/acre plus 0.5 lb ae/acre 2,4-D when plants are at the late bolt through early flowering growth stages.
Vervain: Chaparral alone will provide suppression. Apply 1.5 to 2.0 oz/acre of Chaparral with 0.5 lb ae/acre (1 pint/acre of 4 lb ae/gallon 2,4-D) of 2,4-D.
Whitetop: Apply 3.3 ounce/acre early in the spring to actively growing rosettes or to regrowth before the bud stage. Treatment after bloom is generally less effective and the addition of 2,4- D at 1 lb ae/acre (2 pint/acre of 4 lb ae/gallon 2,4-D) is recommended.
Wormwood, absinth: Apply 3.0 to 3.3 ounce/acre before wormwood is 12 inches tall. When applying by air on CRP, coverage is important and a minimum of 3 GPA is specified. Remove old duff and litter by fire or mowing for best results. Fall applications are also effective if green regrowth is present.

Woody Plant Control:
FOLIAR APPLICATIONS:
For broad spectrum brush control using a foliar application, Chaparral may be added to tank mixes with Remedy Ultra or other herbicides labeled for rangeland to improve brush control on species such as aspen, conifers (pine). elm, maple, cherry, poplar, oak, Scotch broom, boxelder, hackberry, Russian olive, and salt cedar.

For mixed stands of woody species or shrubs such as buckbrush, absinth wormwood, fringe sage, silverberry, shrubby cinquefoil, wild rose, wild strawberry, and pasture sage Apply 2.5-3 oz of Chaparral with 1 lb ae/A or 2,4-D ester with 0.25% v/v surfactant. Use higher rate for dense stands or later in the application window

Table 3: Woody Plant Control: Apply Chaparral at 3.3 ounce/acre at the timing described below

Common Name	Scientific Name	Plant Family	Application Details
blackberry*	*Rubus spp*	Rosaceae	Apply when leaves are fully expanded and the plant has stopped rapid spring and early summer growth. Application after bloom and before frost is optimal. It is recommend that after mowing, shredding, or burning applications should wait until the next season and enough re-growth has occurred for good uptake and translocation.
buckbrush (coralberry) or Western snowberry	*Symphoricarpos orbiculus or Symphoricarpos occidentalis*	Caprifoliaceae	Apply 3 oz/acre of Chaparral alone or 2.0 to 3.0 oz/acre with 1 lb ae/acre of 2,4-D ester (2 pints/acre of 4 lb ae/gallon 2,4-D) in the spring when leaves are fully expanded and foliage is mature. Apply 3 oz/acre with 1 lb ae/acre of 2,4-D ester (2 pints/acre of 4 lb ae/gallon 2,4-D) from full leaf expansion up to the flowering stage.
dewberry*	*Rubus flagellaris*	Rosaceae	Apply when leaves are fully expanded and the foliage is dark green, either before first flower or after fruit drop. Application after fruit drop is preferred until frost. It is recommend that after mowing, shredding, or burning applications should wait until the next season and enough re-growth has occurred for good uptake and translocation..
honey locust	*Gleditsia triacanthos*	Fabaceae	Apply in spring when leaves are fully expanded and foliage is mature.
honeysuckle	*Lonicera japonica*	Caprifoliaceae	Apply in spring when leaves are fully expanded and foliage is mature.
kudzu	*Pueraria montana*	Fabaceae	Apply at or after bloom (July) in the summer until fall when the foliage begins to senesce. Kudzu should be actively growing; avoid treating when drought stressed.
locust, black	*Robinia pseudoacacia*	Fabaceae	Apply in spring when leaves are fully expanded and foliage is mature.
mimosa	*Albizia julibrissin*	Fabaceae	Apply after full leaf emergence in the spring until fall foliage color change.
plum, American and sand hill	*Prunus Americana and Prunus angustifolia*	Rosaceae	Apply in spring when leaves are fully expanded and foliage is mature.
redbud	*Cercis canadensis*	Fabaceae	Apply after full leaf emergence in the spring until fall foliage color change.
rose, Cherokee	*Rosa laevigata*	Rosaceae	Apply from full leaf through flowering. For best results, delay treatment for 9-12 months after mowing.
rose, multiflora	*Rosa multiflora*	Rosaceae	Apply from full leaf through flowering. For best results, delay treatment for 9-12 months after mowing.
rose, prairie wild	*Rosa arkansana*	Rosaceae	Apply from full leaf through flowering. For best results, delay treatment for 9-12 months after mowing.
Tree of heaven	*Ailanthus altissima*	Simaroubaceae	Apply after full leaf out and before fall foliage color change
wisteria	*Wisteria* brachybotrys	Fabaceae	Apply after full leaf emergence in the spring until fall foliage color change.
yucca‡	*Yucca glauca*	Agavaceae	Add 1 lb ai/acre of 2,4-D ester (2 pints/acre of 4 lb ae/gallon 2,4-D) to Chaparral at 3.3 ounce/acre. Another option for additional woody plant control is Chaparall plus 1 pint/acre Remedy® Ultra. Make applications from flower stalk elongation through seed pod development. Crop oil concentrate (COC), Methylated Seed Oil (MSO) or Methylated Seed Oil/ Organosilicone (MSO/OS) are the preferred adjuvants. Aerial application is recommended with a minimum of 4 gallons per acre volume for dense yucca populations.

‡ : This symbol denotes weed suppression which is a reduction in weed competition compared to untreated areas. A second treatment may be necessary.

* This recommendation is for blackberry and dewberry control in bermudagrass or other non-sensitive grasses only. For control in tall fescue pastures, only apply Chaparral as a spot treatment. For broadcast blackberry control in tall fescue pastures, use 1 pint/acre of Remedy Ultra + 2 pts/acre of ForeFront™ R&P

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 specified 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 85% of rotor diameter.
2. Nozzles should be pointed backward parallel with the air stream or not pointed downwards more than 45 degrees.

State regulations must be followed.

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 specified 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** - Orient nozzles so that the spray is released parallel to the airstream to produce larger droplets than other orientations. 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: The distance of the outer most operating nozzles on the boom must not exceed 75% of wingspan or 85% of rotor diameter.

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 such as valleys and ravines 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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Revisions:

Changes by amendment:

1. Updated the statement "Do not apply directly to water and take precautions to minimize spray drift onto water" to "Do not apply directly to water and take precautions to minimize overspray to open water when treating target vegetation in and around non-flowing, quiescent or transient water. When making applications to control unwanted plants on banks or shorelines of flowing water, minimize overspray to open water. Note: Consult local public water control authorities before applying this product in and around public water. Permits may be required to treat such areas" throughout the label.
2. Updated the statement "The field bioassay can be initiated at any time between harvest of the treated crop and the planting of the intended rotational crop" to "The field bioassay can be initiated one year after the last application of aminopyralid in that field" throughout the label and supplemental label.
3. Added statement and graphic for Northeastern states.
4. Updated trademark line.