

## **WEEDS CONTROLLED AT 1.2-1.5 PINTS (19-24 FL OZ) PER ACRE**

### General Information

### Product Information

ForeFront HL specialty herbicide controls broadleaf weeds and certain woody plants on rangeland, permanent grass pastures (including grasses grown for hay), Conservation Reserve Program (CRP) acres, and non-irrigation ditch banks.

Hay from grass treated with ForeFront HL 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. ForeFront HL 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.

Use of this product in certain portions of California, Oregon, and Washington is subject to the January 22, 2004 Order for injunctive relief in Washington Toxics Coalition et al. v. EPA, C0131C, (W.D. W.A.). For further information, please refer to EPA Web site: <http://www.epa.gov/espp>.

### Resistance Management Guidelines

- Development of plant populations resistant to this herbicide mode of action is usually not a problem on rangeland, permanent grass pastures, or CRP, 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 specified 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

This product is not intended for reformulation or repackaging into other end-use products.

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

HL. Injury to crops may result if treated soil and/or runoff water containing ForeFront HL is washed, or moved onto land used to produce crops. Exposure to ForeFront HL 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.

- Preharvest Interval: Do not cut forage for hay within 7 days of application. For program lands, such as CRP, consult program rules to determine whether grass or hay may be used. The more restrictive requirements of the program rules or the label must be followed.
- Maximum seasonal rate: Apply no more than 2.1 pints (34 fluid oz) (0.87 lbs ae 2,4-D) per acre per use season
- Use 2 or more gallons of spray solution per acre
- Do not make more than two applications per year
- Do not apply within 30 days of previous application
- If grass is to be cut for hay, Agricultural Use Requirements for the Worker Protection Standard are applicable
- Maximum Application Rate: Do not broadcast apply more than 2.1 pints (34 fluid oz) (0.87 lbs ae 2,4-D) per acre of ForeFront HL per year. The total amount of ForeFront HL applied broadcast, as a re-treatment, and/or spot treatment per year must not exceed 2.1 pints (34 fluid oz) (0.87 lbs ae 2,4-D) per acre. Spot treatments may be applied at an equivalent broadcast rate of up to 4.2 pints (68 fluid oz) of ForeFront HL (1.74 lbs ae 2,4-D) per acre per annual growing season; however, not more than 50% of an acre may be treated at that rate.
- Grazing and Haying Restrictions: Do not harvest forage for hay within 7 days of ForeFront HL application. Cutting hay too soon after spraying weeds can compromise the weed control. Wait 14 days prior to cutting grass hay to allow for maximum herbicide activity.
- Do not use this product for impregnation on dry fertilizer, unless specified in a Dow AgroSciences state specific product bulletin.
- Transfer of Animals Feeding on ForeFront HL Treated Forage: Do not transfer

animals grazing or feeding on hay to areas where sensitive broadleaf crop 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.

- 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.

- Restrictions in Hay or Manure Use:

- Do not use treated plant residues, including hay or straw from areas treated within the preceding 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 hay from treated areas within the previous 3 days on land used for growing broadleaf crops.

- Manure from animals that have grazed forage or eaten hay harvested from aminopyralid-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 in the previous year 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 residues 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 accelerated by supplemental irrigation.

- Grazing Poisonous Plants: Herbicide application may increase palatability of certain poisonous plants. Do not graze treated areas until poisonous plants are dry

and no longer palatable to livestock.

- Seeding grasses:

- Preemergence: Grasses may be reseeded in the fall following an application of ForeFront HL applied in the spring or early summer.

- Postemergence: During the season of establishment, ForeFront HL 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 ForeFront HL at this stage of development. ForeFront HL may suppress certain established grasses, such as smooth brome grass (*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.

- Seeding Legumes: Do not plant forage legumes until a soil bioassay has been conducted to determine if aminopyralid residues remaining in the soil will adversely affect the legume establishment.

- Crop Rotation: Do not rotate to cropland for one year following an application of ForeFront HL. 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 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 initiated starting a minimum of one year after herbicide application and following harvest of the treated 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 wheat, forage grasses, native grasses or grasses grown for hay.

- ForeFront HL is highly active against many broadleaf plant species. Do not use this product on areas where loss of desirable broadleaf forage plants, including legumes, cannot be tolerated.
- Trees adjacent to or in a treated area can occasionally be affected by root uptake of ForeFront HL through movement into the soil. Do not apply ForeFront HL 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.
- 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.

#### Restrictions for Non-Irrigation Canal Ditchbank Application

Postemergence:

Limited to 1 application per season.

Maximum of 2.1 pints (34 fluid oz) (0.87 lbs ae 2,4-D)/acre per application.

Minimum of 30 days between applications

Spot treatments may be applied at an equivalent broadcast rate of up to 4.2 pints (68 fluid oz) of ForeFront HL (1.74 lbs ae 2,4-D) per acre per annual growing season; however, not more than 50% of an acre may be treated at that rate.

Do not use on small canals with a flow rate less than 10 cubic feet per second (CFS) where water will be used for drinking purposes. CFS may be estimated by using the formula below. The approximate velocity needed for the calculation can be determined by observing the length of time that it takes a floating object to travel a defined distance.

Divide the distance (ft.) by the time (sec.) to estimate velocity (ft. per sec.).

Repeat 3 times and use the average to calculate CFS.

Average Width (ft.) x Average Depth (ft.) x Average Velocity (ft. per sec.) = CFS

For ditchbank weeds:

Do not allow boom spray to be directed onto water surface.

Do not spray across stream to opposite bank.

For shoreline weeds:

Allow no more than 2 foot overspray onto water.

### Sprayer Clean-Out Instructions

It is recommended that separate spray equipment be used on highly sensitive crops such as tobacco, soybeans, peanuts, and tomatoes.

Do not use spray equipment used to apply ForeFront HL for other applications to land planted to, or to be planted to, 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 ForeFront HL 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 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.

## Application Methods

Apply the specified rate of ForeFront HL as a coarse low-pressure spray.

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

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 2.1 pints (34 fluid oz) per acre per annual growing season. Use sufficient spray volume to thoroughly and uniformly wet foliage and stems.

Spot Application: Spot treatments may be applied at rates equivalent to broadcast-applied rate of up to a maximum of 4.2 pints (68 fluid oz) per acre on 50% of the treated field. Spray volume should be sufficient to thoroughly and uniformly wet weed foliage. Repeat treatments may be made, but the total amount of ForeFront HL applied must not exceed 2.1 pints (34 fluid oz) per acre per year (see comments in the Use Precautions and Restrictions section above on Maximum Application Rate).

Refer in the label regarding tank mix information.

## Limitations, Restrictions, and Exceptions



## Use Rates and Timing

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

ForeFront HL may be applied postemergence as a broadcast spray or as a spot application to control weeds listed on the label; weeds other than those listed may also be controlled by this herbicide. 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) or for longer residual control. 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.

For most species, 2 hours between application and rainfall provides a sufficient amount of time to avoid loss in weed control due to herbicide wash-off of foliage.

ForeFront HL also provides preemergence control of germinating seeds or emerging seedlings of susceptible weeds and re-growth of certain perennial weeds following application. Weed establishment following ForeFront HL application will depend upon application rate, season of application, and growing condition.

ForeFront HL can provide long-term control of 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 forage grasses are allowed to recover from overgrazing, drought, etc., and compete with weeds.

ForeFront HL 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 ForeFront HL, it is important that vegetation management practices, including grazing management, biological control agents, replanting, fertilization, prescribed fire, reseeding with desirable plants, etc., be used to increase the competitiveness of desired forages. Used as part of an integrated management program, ForeFront HL can serve as a catalyst

for rapid improvement of rangeland, permanent grass pasture, and CRP, by alleviating the adverse competitive effect of weeds on the yield and quality of forages and other desirable plant species. Agricultural and natural resources specialists with federal and state government agencies can provide guidance on best management practices and development of integrated vegetation management systems.

### Broadleaf Weeds Controlled

The following weeds will be controlled at 1.2 to 2.1 pints (19 to 34 fluid oz) per acre. For best results, apply when weeds are actively growing and conditions favorable for plant growth. Use a higher rate in the rate range when growing conditions are less than favorable, when weeds are mature, or when weed foliage is tall and dense or when residual control is important. ForeFront HL also provides preemergence control of germinating seeds or emerged seedlings of susceptible weeds following application.

Susceptible Brush such as Multiflora rose:

Individual Plant Treatment - Use 24 fl oz (0.25% v/v) of ForeFront HL tank-mixed with Remedy Ultra at 2 pints (32 fluid oz) (0.25% v/v) per 100 gallons of water. Apply from full leaf through flowering. For best results, delay treatment for 9-12 months after mowing. Spot treatments may be applied at an equivalent broadcast rate of up to 4.2 pints (68 fluid oz) of ForeFront HL per acre per annual growing season; however, not more than 50% of an acre may be treated at that rate.

Broadcast - Use 1.2 to 2.1 pints (19 to 34 fluid oz) of ForeFront HL tank mixed with Remedy Ultra at 1 to 2 pints (16 to 32 fluid oz) per acre.

Apply from full leaf through flowering. For best results, delay treatment for 9-12 months after mowing.

carrot, wild, crownvetch, faldedandelion, Carolina, vetch, common, woodsorrel, yellow - These plants are indicated to be invasive in the USDA-NRCS, PLANTS Database (<http://plants.usda.gov/index.html>).

cinquefoil, sulfur, daisy, oxeye, horsenettle, Carolina, ragweed, common, thistle, musk, thistle, plumeless, wormwood, absinth - These plants 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>).

ragwort, tansy, starthistle, yellow - These plants are indicated to be invasive in the USDA-NRCS, PLANTS Database (<http://plants.usda.gov/index.html>). Spot treatment at rates up to 4.2 pints (68 fl oz) per acre of ForeFront HL may be particularly effective against dense patches of perennial broadleaf plants.

Life Cycle - Spot treatment at rates up to 4.2 pints (68 fl oz) per acre of ForeFront HL may be particularly effective against dense patches of perennial broadleaf plants.

#### Method

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

[Spot treatment](#)

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

[Spot treatment](#)

#### Rates

[field rates 0](#)

[field rates 1](#)

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#### Restricted Entry Interval

48 hours

#### Timings

[Preemergence \(Weed\)](#)

[Postemergence \(Weed\)](#)