

66330-287

2/10/2009

1/37



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs
Registration Division (7505P)
Ariel Rios Building
1200 Pennsylvania Ave., NW
Washington, D.C. 20460

EPA Reg. Number:
66330-287

Date of Issuance:
10 FEB 2009

NOTICE OF PESTICIDE:
Registration
[X] Reregistration
(under FIFRA, as amended)

Term of Issuance:

Name of Pesticide Product:
Banvel + 2,4-D

Name and Address of Registrant (include ZIP Code):

Arysta LifeScience North America Corp.
15401 Weston Parkway, Suite 150
Cary, NC 27513

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

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

This product is reregistered in accordance with FIFRA section 4(g)(2)(C) provided you:

- 1. Submit and/or cite all data required for registration/reregistration review of your product when the Agency requires all registrants of similar products to submit data.
2. A stamped copy of your labeling is enclosed for your records. Submit one copy of the revised final printed label for the record before you release the product for shipment. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.
a. The Agency recommends that additional text be added to the Note to Physician that addresses eye irritation concerns. The following statements are some suggested types of information that could be included, if applicable.
- technical information on symptomatology
- use of supportive treatments to maintain life functions
- medicine that will counteract the specific physiological effects of the pesticide
- company telephone number to specific medical personnel who can provide specialized medical advice

Continued on Page 2

Signature of Approving Official:

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

Handwritten signature of Joanne I. Miller

Date:

10 FEB 2009

- b. Per the acute toxicology review, the Hazards to Humans and Domestic Animals should read as follows:
“Corrosive. Causes irreversible eye damage. **Harmful if swallowed. Harmful if absorbed through skin.** Do not get in eyes or on clothing. Avoid contact with skin.”
- c. Per the acute toxicity review and the 2,4-D and Dicamba REDs, the handler PPE section must be revised to read (**bold** indicates differences)

“Some materials that are chemical-resistant to this product are **made of any waterproof material.** If you want more options, follow the instructions for Category A an EPA chemical-resistance category selection chart.

All mixers, loaders, applicators, flaggers, and other handlers must wear:

- Long-sleeved shirt and long pants,
- Shoes and socks,
- Goggles or faceshield,**
- Chemical-resistant gloves (except for pilots), and**
- Chemical-resistant apron when mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate.**

See engineering controls for additional requirements.”

- d. The following text must be added to the engineering control section of the label:
“Pilots must use an enclosed cockpit that meets the requirements listed in the WPS for agricultural pesticides [40CFR 170.240 (d)(6).”

The mechanical transfer engineering control text is no longer needed and may be deleted from the label.

- e. Per the 2,4-D RED requirements, the text in **bold type** below must be added to the following User Safety Requirements:
- “...If no such instructions for washables **exist**, use detergent and hot water...”
- f. The text in **bold type** must be added to the User Safety Recommendation text currently on the label:
“User should remove clothing/**PPE** immediately if pesticide gets inside.”
- g. The text “**except as noted on appropriate labels**” appearing in the first sentence of the Environmental Hazard section must be **deleted** from the label.
- h. There is a typographical error in the second paragraph of the Environmental Hazards section: “conwtamination”

- i. Per the Dicamba RED, the early entry PPE must be revised to read:
 - Coveralls worn over short-sleeve shirt and short pants,
 - Chemical-resistant footwear plus socks,
 - Chemical-resistant gloves made of any waterproof material,
 - Chemical-resistant headgear for overhead exposure,
 - Protective eyewear.”
- j. A Non-Agricultural Use Requirements box must be added to the label below the Agricultural Use Requirements box with the following entry restriction text:

“NON-AGRICULTURAL USE REQUIREMENTS

The requirements in the 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. Do not enter or allow others to enter the treated area until sprays have dried.”

- k. The Agency recommends placing the Storage and Disposal text within a box to make it more prominent. See the Notification of November 4, 2008 for the appropriate language.
- l. Per the Dicamba and 2,4-D REDs, the text below must be added to the spray drift section of the label and be placed under the heading “Additional requirements for aerial applications” :

“When applications are made with a crosswind, the swath will be displaced downwind. The applicator must compensate for this by adjusting the path of the aircraft upwind.”

- m. The text “Do not exceed 40 gallons of spray solution per treated acre per application. Forty gallons of spray solution contains 1.0 pound acid equivalent of dicamba and 2.87 pounds acid equivalent of 2,4-D. Spray to wet” appearing on Page 27 of the label under the heading ‘Farmstead and Fencerow Treatment Application Instructions’ must be revised for the following reasons:
 - The directions to “spray to wet” conflicts with the rate restrictions specified in the RED and on the label for non-crop sites.
 - The label does not provide clear mixing instructions for tank mixes, so the Agency is unable to confirm that the 40 gallons of spray solution per acre does contain 1.0 lbs ae of dicamba and 2.87 lbs ae of 2,4-D.
- n. Under the Conservation Reserve Programs and General Farmstead heading, the following text must be added:

“For program lands, such as Conservation Reserve Program (CRP), consult program rules to determine whether grass or hay may be used. The more restrictive requirements of the program rules or this label must be followed.”

4/37

- o. Add the following statements to the labeling:

“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, C01-0132C, (W.D. WA). For further information, please refer to EPA Web site: <http://www.epa.gov/espp>.”

A stamped copy of your labeling is enclosed for your records. Submit one (1) copy of the revised final printed label for the record before you release the product for shipment. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

Enclosure

5/37

BANVEL® + 2,4-D

For use on Conservation Reserve Program Land; Fallow Systems (Between Crop Applications), General Farmstead, Sorghum, Grass (Hay or Silage), Pastures, Rangeland, Sugarcane, and Wheat

Active Ingredients:*

Dimethylamine salt of dicamba (3,6-dichloro-o-anisic acid)	12.4%
Dimethylamine salt of 2,4-dichlorophenoxyacetic acid**	35.7%
Inert Ingredients:	51.9%
Total	100.0%

* This product contains 10.3% 3,6 dichloro-o-anisic acid (dicamba) or 1 pound per gallon (120 grams per liter) and 29.6% 2,4-D or 2.87 pounds per gallon (344 grams per liter).

** Isomer specific by AOAC method 978.05, 15th Edition.

SHAKE WELL BEFORE USING

KEEP OUT OF REACH OF CHILDREN.

DANGER / PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID	
IF IN EYES:	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
IF 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.
IF ON SKIN OR CLOTHING:	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
IF INHALED:	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.
NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate gastric lavage.	
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE: Call PROSAR at 1-866-303-6952 or 1-651-632-8946 if calling from outside the U.S. FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call CHEMTREC at 1-800-434-9300 or 1-703-527-3887 if calling from outside of the U.S.	

EPA Reg. Number: 66330-287
EPA Est. No. 68323-TX-1
AD xxxxxx
NET CONTENTS _____

Manufactured For:
Arysta LifeScience North America Corporation
15401 Weston Parkway, Suite 150
Cary, NC 27513

ACCEPTED
with **COMMENTS**
In EPA Letter Dated:

10 FEB 2009
Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.

6/37

**Precautionary Statements
Hazards to Humans and Domestic Animals
DANGER**

Corrosive. Causes irreversible eye damage. Harmful if absorbed through skin or swallowed. Do not get in eyes or on clothing. Avoid contact with skin.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical-resistance category selection chart.

Applicators and other handlers must wear:

1. Long-sleeved shirt and long pants
2. Chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.
3. Shoes plus socks
4. Protective eyewear

Mixers and loaders who do not use a mechanical system (probe and pump) must wear:

1. Coveralls
2. Chemical-resistant apron

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not re-use them. Follow the manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. After each day of use, clothing or PPE must not be reused until it has been cleaned.

ENGINEERING CONTROLS STATEMENT

When handlers use closed systems, enclosed-cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

-For containers of 5 gallons or more: Do not open pour product from this container. A mechanical system (such as a probe and pump or spigot) must be used for transferring the contents of this container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal.

-For containers greater than 1 gallon but less than 5 gallons: When handlers use a mechanical system (probe and pump), enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4)], the handler PPE requirements may be reduced or modified as

specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

1. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
2. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
3. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This chemical is toxic to fish and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark except as noted on appropriate labels. Drift or runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

This chemical has 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. Application around cistern or well may result in contamination of drinking water or groundwater.

ENDANGERED SPECIES CONCERNS

The use of any pesticide in a manner that may kill or otherwise harm an endangered species or adversely modify their habitat is a violation of federal law.

DIRECTIONS FOR USE

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

Unless otherwise directed in supplemental labeling, all applicable directions, restrictions, precautions and Conditions of Sale and Warranty are to be followed. This labeling must be in the user's possession during application.

8/37

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
- Protective eyewear

Steps to be taken in case material is released or spilled:

Dike and contain the spill with inert material (sand, earth, etc.) and transfer liquid and solid diking material to separate containers for disposal. Remove contaminated clothing, and wash affected skin areas with soap and water. Wash clothing before re-use. Keep the spill out of all sewers and open bodies of water.

GENERAL INFORMATION

Banvel + 2,4-D is a selective postemergence herbicide for controlling a wide spectrum of annual, biennial, and perennial broadleaf weeds and brush in grass forages and selected row crops.

MODE OF ACTION

Banvel + 2,4-D contains two active ingredients: dicamba and 2,4-D. Banvel + 2,4-D is readily absorbed by plants through shoot and root uptake, translocates throughout the plant's system, and accumulates in areas of active growth. Banvel + 2,4-D interferes with the plant's growth hormones (auxins) resulting in death of many broadleaf weeds.

CLEANING SPRAY EQUIPMENT

Clean application equipment thoroughly by using a strong detergent or commercial sprayer cleaner according to the manufacturer's directions and then triple rinsing the equipment before and after applying this product.

STORAGE AND DISPOSAL

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

Pesticide Storage: Do not store below 32 degrees F or above 100 degrees F. Store in original container in a well ventilated area separately from fertilizer, feed, and foodstuffs. Avoid cross-contamination with other pesticides.

Pesticide Disposal: Pesticide wastes are toxic. Wastes resulting from this product may be disposed of on site or at an approved waste disposal facility. Improper disposal of excess pesticide, spray mix, or rinsate is a violation of federal law. If these wastes cannot be disposed of according to label instructions contact the state agency responsible for pesticide regulation or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal:

Plastic or Metal Containers: Triple rinse (or equivalent) and add rinsate to spray tank. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Bulk/Mini-bulk Containers: Reusable containers should be returned to the point of purchase for cleaning and refilling because the container must be thoroughly cleaned before refilling.

APPLICATION INSTRUCTIONS

Apply Banvel + 2,4-D at the rates and growth stages listed in Tables 1 and 2 as follows unless instructed differently by **Crop-Specific Restrictions in the Crop-Specific Information** sections. Applications can be made to actively growing weeds as aerial, broadcast, band, or spot spray applications. Banvel + 2,4-D may be applied using water or sprayable fluid fertilizer as a carrier. Sprayable fluid fertilizer may be used as the carrier in preplant or preemergence uses for all crops listed on this label. Postemergence uses with sprayable fluid fertilizer may be made on pasture, hayland, or wheat crops only. The most effective application rate and timing varies based on the target weed species (refer to Table 1). In mixed populations of weeds the correct rate is determined by the weed species requiring the highest rate. Delaying application permits weeds to exceed the maximum size stated and will prevent adequate control.

IRRIGATION

In irrigated areas, it may be necessary to irrigate before treatment to ensure active-weed growth.

SPRAY COVERAGE

Weeds must be thoroughly covered with spray. Dense leaf canopies shelter smaller weeds and can prevent adequate spray coverage.

SPRAY DRIFT MANAGEMENT

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and methods of application (e.g., ground, aerial, airblast, chemigation) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

Droplet Size

When applying sprays that contains 2,4-D as the sole ingredient, or when applying sprays that contain 2,4-D mixed with active ingredients that require a Coarse or coarser spray, apply only as a Coarse or coarser spray (ASAE standard 572) or a volume mean diameter of 385 microns or greater for spinning atomizer nozzles.

When applying sprays that contain 2,4-D mixed with other active ingredients that require a Medium or more fine spray, apply only as a Medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

Wind Speed

Do not apply at wind speeds greater than 15 mph. Only apply this product if the wind directions favor on-target deposition and there are not sensitive areas (including, but not limited to, residential areas, bodies of water, known habitat for nontarget species, nontarget crops) within 250 feet downwind. If applying a medium spray, leave one swath unsprayed at the downwind edge of the treated field.

Temperature Inversions

If applying at wind speeds less than 3 mph, the applicator must determine if: a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

Susceptible Plants

Do not apply under circumstances where spray drift may occur to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption. Susceptible crops include, but are not limited to, cotton, okra, flowers, grapes (in growing stage), fruit trees (foliage), soybeans (vegetative stage) ornamentals, sunflowers, tomatoes, beans, and other vegetables, or tobacco. Small amounts of spray drift that may not be visible may injure susceptible broadleaf plants.

Other State and Local Requirements

Applicators must follow all state and local pesticide drift requirements regarding application of 2,4-D herbicides. Where states have more stringent regulations, they must be observed.

Equipment

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

Aerial application requirements: The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter. Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety. This requirement does not apply to forestry or rights-of-way applications.

Ground application requirements: Do not apply with a nozzle height greater than 4 feet above the crop canopy.

SENSITIVE CROP PRECAUTIONS

Banvel + 2,4-D may cause injury to cotton, okra, flowers, grapes (in growing stage), fruit trees (foliage), soybeans (vegetative stage) ornamentals, sunflowers, tomatoes, beans, and other vegetables, or tobacco. These plants are most sensitive to Banvel + 2,4-D during their development or growing stage. FOLLOW THE PRECAUTIONS LISTED BELOW WHEN USING BANVEL + 2,4-D.

- Do not treat areas where either possible downward movement into the soil or surface washing may cause contact of Banvel + 2,4-D with roots of desirable plants such as trees and shrubs.
- Agriculturally approved drift-reducing additives may be used.
- Do not apply Banvel + 2,4-D adjacent to sensitive crops when the temperature on the day of application is expected to exceed 85°F as drift is more likely to occur.

- To avoid injury to desirable plants, equipment used to apply Banvel + 2,4-D should be thoroughly cleaned (See PROCEDURE FOR CLEANING SPRAY EQUIPMENT) before reusing to apply any other chemicals.

All crop uses of Banvel + 2,4-D are intended for a normal growing interval between planting and harvest. No crop rotation restrictions exist if normal harvest of treated crop has occurred. If this interval is shortened, such as in cover crops that will be plowed under, do not follow up with the planting of a sensitive crop.

Crops growing under stress conditions such as drought, poor fertility, or foliar damage due to hail, wind or insects, can exhibit various injury symptoms that may be more pronounced if herbicides are applied.

Consult your local or state authorities for possible application restrictions and advice concerning these and other special local use situations. Tank mix recommendations are for use only in states where the tank mix product and application site are registered.

Table 1. Application Rate and Timing-Annual Weeds
See Crop-Specific Information for Use Restrictions for Individual Crops.

Weeds Controlled (including ALS- and triazine- resistant)	Banvel + 2,4-D Rate Per Acre (according to weed growth stage)					
	½ pint	1 pint	1 ½ pints	2 pints	3 pints	4 pints
Beebalm, Spotted	-	-	-	Pre-bloom	Post bloom	-
Broomweed	1-3"	3" branching		Branching		After branching
Buckwheat, Wild	-	1-6"	-	-	-	-
Buffalobur	-	-	-	1-6"	-	-
Burdock	-	pre-flower	-	-	-	-
Buttercup	-	pre-flower	-	early bloom	late bloom	-
Chickweed, common	-	seed-ling	1-3"	-	-	-
Cockle, Cow	-	< 3"	-	-	-	-
Cocklebur, Common	-	1-6"	6-12"	12-18"	-	-
Coreopsis, Plains	-	1-6"	-	-	-	-
Croton, Woolly	1-4"	4-12"	12-30"	-	-	-
Devils-claw	-	-	-	< 8"	-	-
Dogfennel	-	-	-	10-15"	-	-

Weeds Controlled (including ALS- and triazine- resistant)	Banvel + 2,4-D Rate Per Acre (according to weed growth stage)					
	½ pint	1 pint	1 ½ pints	2 pints	3 pints	4 pints
Evening primrose	-	< 2"	-	2-6"	-	-
Falseflax, Smallseed	-	< 2"	-	-	-	-
Fleabane, Annual	-	1-4"	4-8"	8"	-	-
Flixweed	-	< 3"	-	-	-	-
Henbit	-	-	pre- flower	-	flower	-
Knotweed Spp.	-	< 3" runners	-	< 3" runners	-	Actively growing
Kochia	-	1-6"	6-10"	10-20"	-	Actively growing
Lambsquarters, Common	-	1-6"	6-10"	10-20"	-	Actively growing
Mallow, common	-	< 3"	-	-	-	-
Morning Glory, Ivyleaf Tall	-	pre- flower pre flower	-	Post- flower Early bolt	-	-
Mustards, Annual tansy	-	Rosette < 3"	-	-	-	-
Pennycress, field	-	-	-	Rosette	-	-
Pepperweed, Virginia	-	-	1-3"	3-6"	post branchin g	-
Pigweed, Prostrate ,Redroot ,Smooth ,Tumble	-	< 3" < 3" < 3" < 3"	-	mature	-	-
Poorjoe	-	Prior to flower	-	-	-	Actively growing
Purslane, Common	-	< 3"	3-8"	-	-	-
Ragweed, Common Western Lanceleaf	1-3"	3-6"	6-10"	> 10" Actively growing	-	-
Sedge ¹	-	-	-	-	-	-

Weeds Controlled (including ALS- and triazine- resistant)	Banvel + 2,4-D Rate Per Acre (according to weed growth stage)					
	½ pint	1 pint	1 ½ pints	2 pints	3 pints	4 pints
Shepardspurse	-	rosette	-	-	-	-
Smartweed, Pennsylvavnia	-	< 4"	-	-	4-12"	-
Sneezeweed, bitter	-	1-4"	prior to flower	flower	-	-
Sowthistle	-	rosette	-	bolting	-	-
Sunflower	-	1-3"	3-6"	6-24"	-	-
Thistle, Russian	-	-	-	rosette	-	-
Velvetleaf	-	< 6"	6-20"	> 20"	-	-

¹ Adding crop oil concentrate has been shown to improve performance on actively growing annual sedge.

AERIAL APPLICATION METHODS AND EQUIPMENT

Water Volume: Use 3-10 gallons of water per acre. Use the higher spray volume when treating dense or tall vegetation.

Application Equipment: Select nozzles designed to produce minimal amounts of fine spray particles. Make applications at the lowest safe height to reduce the exposure of spray droplets to evaporation and wind. The applicator must follow the most restrictive use cautions to avoid drift hazards, including those found in this labeling as well as applicable state and local regulations and ordinances. Do not use aerial equipment if spray particles can be carried by the wind into areas where sensitive crops or plants are growing or when temperature inversions exist.

Do not treat areas where either possible downward movement into the soil or surface washing may cause contact of Banvel + 2,4-D with the roots of desirable plants such as trees and shrubs.

Avoid making applications when spray particles may be carried by air currents to areas where sensitive crops and plants are growing. Do not spray near sensitive plants if wind is gusty or in excess of 5 mph and moving in the direction of nearby sensitive crops or if a temperature inversion exists. However, always make applications when there is some air movement to determine the direction and distance of possible spray drift. Leave an adequate buffer zone between area to be treated and sensitive plants. Coarse sprays are less likely to drift out of the target area than fine sprays. Agriculturally-approved drift-reducing additives may be used.

Do not use aerial equipment or apply Banvel + 2,4-D when sensitive crops and plants are growing in the vicinity of area to be treated.

PROCEDURE FOR CLEANING SPRAY EQUIPMENT

The steps listed below are suggested for thorough cleaning of spray equipment following applications of Banvel + 2,4-D or tank mixes of Banvel + 2,4-D or tank mixes.

- 1) Hose down thoroughly the inside as well as outside surfaces of equipment while filling the spray tank half full of water. Flush by operating sprayer until the system is purged of the rinse water.
- 2) Fill tank with water while adding 1 quart of household ammonia for every 25 gallons of water. Operate the pump to circulate the ammonia solution through the sprayer system for 15 to 20 minutes and discharge a small amount of the ammonia solution through the boom and nozzles. Let the solution stand for several hours, preferably overnight.
- 3) Flush the solution out of the spray tank through the boom.
- 4) Remove the nozzles and screens and flush the system with two full tanks of water.

The steps listed below are suggested for thorough cleaning of spray equipment used to apply Banvel + 2,4-D as a tank mix with wettable powders (WP), emulsifiable concentrates (EC), or other types of water-dispersible formulations. Banvel + 2,4-D tank mixes with water-dispersible formulations require the use of a water/detergent rinse.

- 5) Complete step 1.
- 6) Fill tank with water while adding 2 lbs. of detergent for every 40 gallons of water. Operate the pump to circulate the detergent solution through the sprayer system for 5 to 10 minutes and discharge a small amount of the solution through the boom and nozzles. Let the solution stand for several hours, preferably overnight.
- 7) Flush the detergent solution out of the spray tank through the boom.
- 8) Repeat step 1, and follow with steps 2, 3 and 4.

Table 2. Application Rate and Timing- Biennial and Perennial Weeds
See Crop-Specific Information for Uses Restrictions for Individual Crops.

Weeds Controlled	Banvel + 2,4-D Rate Per Acre (according to weed growth stage)					
	½ pint	1 pint	1 ½ pints	2 pints	3 pints	4-5.6 pints

Weeds Controlled	Banvel + 2,4-D Rate Per Acre (according to weed growth stage)					
	½ pint	1 pint	1 ½ pints	2 pints	3 pints	4-5.6 pints
Bindweed, Field	-	-	-	-	-	Actively growing
Bittercress	-	2-3"	-	-	-	-
Buckeye species ¹	-	-	-	-	full leaf	-
Bullnettle ^{2,5}	-	-	-	flower	-	-
Chicory	-	-	-	-	Early bolting	-
Clover, bur	-	-	pre-flower	-	-	-
Dandelion, common	-	rosette	-	bolting	-	-
Dewberry, Southern ¹	-	-	-	-	-	spring or fall
Dock, curly	-	-	Prior to bolting	-	After bolting	-
Elderberry ²	-	-	-	-	-	Actively growing
Goldenrod, Missouri	-	-	-	3-15"	flower	-
Goldenweed, Common	-	-	-	-	-	Actively growing
Groundsel, Texas	-	rosette	Post-bolting	-	-	-
Honeysuckle, Hairy	-	-	-	-	spring or fall	-
Horsenettle, Carolina ¹	-	-	-	-	-	flower or berry
Ivy, Poison	-	-	-	after bloom	-	-
Knapweed, Black ² , Russian ² , Spotted ²	-	-	-	-	-	Actively growing
Marshelder ⁵	-	-	-	< 12"	12"/ pre bloom	-
Mesquite	-	-	-	-	-	45-90 days after bud break
Milkweed ^{1,5}	-	-	-	pre flower	-	flower

Weeds Controlled	Banvel + 2,4-D Rate Per Acre (according to weed growth stage)					
	½ pint	1 pint	1 ½ pints	2 pints	3 pints	4-5.6 pints
Nightshade, Silverleaf ¹ , Black ¹	-	-	-	full flower	-	- Actively growing
Persimmon, Eastern ³	-	-	-	-	-	Actively growing
Prickly Lettuce	-	-	-	rosette	-	Actively growing
Rabbitbrush ²	-	-	-	-	-	-
Ragwort, tansy	-	-	-	rosette	-	Actively growing
Redvine ²	-	-	-	-	-	Actively growing
Sagebrush, ² Fringed	-	-	-	-	-	Actively growing
Smartweed	-	-	-	-	-	-
Sorrel, Red	-	-	rosette	bolting	flower	Actively growing
Sowthistle ²	-	-	-	-	-	Actively growing
Spurge, Leafy ²	-	-	-	-	-	full leaf
Tallow tree, Chinese ^{4, 5}	-	-	-	-	-	-
Thistle, Bull Canada ² , Musk , Plumless	- - -	- - -	rosette - -	bolting - rosette/ bolting bolting	- - - -	Actively growing - - -
Vetch, Hairy	-	1-4"	4-8"	8" full flower	-	-
Yankeeweed	-	-	-	10-18"	-	rosette
Yellow Starthistle ¹	-	-	-	-	-	-

Weeds Controlled	Banvel + 2,4-D Rate Per Acre (according to weed growth stage)					
	½ pint	1 pint	1 ½ pints	2 pints	3 pints	4-5.6 pints
¹ May require repeat applications. ² Recommended rate will provide top growth suppression only. ³ For improved root kill or woody species such as mesquite and eastern persimmon, spray 4 pints of Banvel + 2,4-D each year for three consecutive years. For increased control of weeds such as blackberry and dewberry, Banvel + 2,4-D may be tank mixed with Ally® herbicide (0.1-0.2 ounces per acre) if labeled for the use site. ⁴ Under dense populations, a second application may be needed the following growing season. ⁵ Not for use in California.						

Ground Application: (Banding)

When applying Banvel + 2,4-D herbicide by banding, determine the amount of herbicide and water volume needed using the following formula

$$\frac{\text{Bandwidth in inches}}{\text{Row width in inches}} \times \text{Broadcast rate per acre} = \text{Banding herbicide rate per acre}$$

$$\frac{\text{Bandwidth in inches}}{\text{Row width in inches}} \times \text{Broadcast volume per acre} = \text{Banding water rate per acre}$$

Ground Application (Broadcast)

Spray Solution Volume: Use 5-40 gallons of spray solution per broadcast acre for optimal performance. Use the higher spray volume when treating dense or tall vegetation.

Do not make spot treatments in addition to broadcast or band treatments.

Spot or Small Area Application

Banvel + 2,4-D may be applied to individual clumps or small areas of undesirable vegetation using handgun or similar types of application equipment. Apply diluted sprays to allow complete wetting (up to runoff) of foliage and stems. For knapsack or other small capacity sprayers, prepare a solution of Banvel + 2,4-D in water according to Table 3 (assuming that the spot treatment rate equates to 60 gallons per acre on the broadcast basis.) Adding a surfactant (0.5% by volume) can help improve control. For example, 5 gallons (40 pints or 640 fluid ounces) of herbicide solution would require 0.2 pints (3.2 fluid ounces) of surfactant.

Application Equipment: Select nozzles designed to produce minimal amounts of fine spray particles with nozzles as close to the weeds as is practical for good weed coverage.

Table 3. Knapsack Sprayer Dilution Instructions

Sprayer Capacity (gallons of water)	Amount of Banvel + 2,4-D to add to the spray tank
1 gallon	1 fluid ounce*
3 gallons	3 fluid ounces
5 gallons	5 fluid ounces

- 1 fluid ounce = 2 tablespoons

ADDITIVES FOR WATER SPRAY SOLUTION

To improve burndown of emerged weeds, surfactants and/or low use rate of liquid fertilizers (28-0-0,32-0-0) or crop oil concentrate may be used with Banvel + 2,4-D or Banvel + 2,4-D tank mixes applied after the weeds have emerged. Crop oil concentrate is for non-food/feed crop uses only.

DO NOT APPLY TANK MIXES THAT CONTAIN AMMONIUM SULFATE (AMS) OR CROP OIL CONCENTRATE TO ANY FOOD/FEED CROP USE LISTED ON THIS LABEL. FOR FEED/FOOD CROP USES, DO NOT USE LIQUID FERTILIZERS THAT CONTAIN AMMONIUM SULFATE (AMS) AS A SOURCE OF NITROGEN AS TOLERANCES IN COMMODITIES DERIVED FROM THE CROP MAY CONTAIN RESIDUES THAT EXCEED ESTABLISHED TOLERANCES.

Consult your local Agricultural Extension Agent for recommendations for your area. For additional information, see Compatibility Test for Mix Components.

When an adjuvant or a specific adjuvant product such as a drift control agent is to be used with this product, the use of a Chemical Producers and Distributors Association (CPDA) certified adjuvant is recommended.

Oil Concentrate

A crop oil concentrate must contain either a petroleum or vegetable oil base and must meet all of the following criteria:

1. be nonphytotoxic
2. contain only EPA-exempt ingredients,
3. provide good mixing quality in the jar test, and
4. be successful in local experience.

The exact composition of suitable products will vary; however, vegetable and petroleum oil concentrates should contain emulsifiers to provide good mixing quality. Highly

refined vegetable oils have proven more satisfactory than unrefined vegetable oils. For additional information, see Compatibility Test for Mix Components.

Adjuvants containing crop oil concentrates may be used for preplant, pre-emergence, and between cropping applications. Do not use crop oil concentrate for postemergence applications in food/feed crops (i.e., sorghum, grass (hay or silage), pastures, rangeland, sugarcane and wheat).

Nitrogen Source

Sprayable liquid fertilizers: use one quart of sprayable liquid fertilizers (28-0-0, 32-0-0) per acre. Do not use brass or aluminum nozzles when spraying fertilizers.

Nonionic Surfactant

The standard label recommendation is 2-4 pints of 80% active nonionic spray surfactant per 100 gallons of water. For certain weeds, use a higher spray surfactant rate.

Table 4. Additive Rate Per Acre

Additive	Rate Per Acre
Nonionic Surfactant	2-4 pints per 100 gallons
Sprayable liquid fertilizers (28-0-0, 32-0-0)	2-4 quarts
Crop Oil Concentrate	1 quart*

* see manufacturer's label for specific rate recommendations

GENERAL TANK MIXING INFORMATION

BANVEL + 2,4-D IS FORMULATED TO MIX WITH WATER OR LIQUID FERTILIZER SOLUTION (28-0-0 OR 32-0-0), HOWEVER DUE TO VARIABILITY IN MANUFACTURING, MIXING AND INGREDIENTS, ALWAYS PERFORM A JAR TYPE COMPATABILITY TEST PRIOR TO USING THIS PRODUCT WITH ANY NEW SPRAY SOLUTION SOURCE.

Tank Mix Partners/Components

The following products may be tank mixed with Banvel + 2,4-D according to the specific tank mixing instructions in this label and respective product labels.

- Aim™ (carfentrazone-ethyl)
- Ally® (metsulfuron-methyl)
- Amber® (triasulfuron)
- Asulox® (asulam)
- Atrazine
- Banvel® (dicamba)
- Basagran® (bentazon)
- Bronate® (bromoxynil + MCPA)
- Buctril® (bromoxynil)
- Canvas® (thifensulfuron + tribenuron + metsulfuron)
- Clarity® (dicamba)

- Curtail® (clorpyralid + 2,4-D)
- Cyclone® (paraquat)
- Dakota® (fenoxaprop-p-ethyl + MCPA)
- Distinct® (diflufenopyr)
- Evik® (ametryn)
- Express® (thifensulfuron + tribenuron-methyl)
- Fallowmaster® (glyphosate + dicamba)
- Finesse® (chlorsulfuron + metsulfuron-methyl)
- Glean® (chlorsulfuron)
- Gramoxone® Extra (paraquat)
- Harmony® Extra (thifensulfuron + tribenuron-methyl)
- Karmex® (diuron)
- Kerb® (pronamide)
- Laddok® S-12 (bentazon + atrazine)
- Landmaster® (glyphosate + 2,4-D)
- Lexone® (metribuzin)
- MCPA
- Paramount® (quinclorac)
- Peak® (prosulfuron)
- Permit® (halosulfuron-methyl)
- Rave™ (dicamba + triasulfuron)
- Roundup Ultra® (glyphosate)
- Sencor® (metribuzin)
- Sinbar® (terbacil)
- Stinger® (clopyralid)
- Tiller® (fenoxaprop-p-ethyl + 2,4-D + MCPA)
- Tordon® (picloram)
- Touchdown® (sulfosate)
- 2,4-D

See section Crop-Specific Information for more details. Read and follow the applicable Restrictions and Limitations and Directions For Use on all products involved in tank mixing. The most restrictive labeling applies to tank mixes.

Physical incompatibility, reduced weed control, or crop injury may result from mixing Banvel + 2,4-D with other pesticides (fungicides, herbicides, insecticides, or miticides), additives, or fertilizers. Arysta LifeScience North America Corporation does not recommend using tank mixes other than those listed on Arysta LifeScience North America Corporation labeling. Local agricultural authorities may be a source of information when using other than Arysta LifeScience North America Corporation recommended tank mixes.

COMPATIBILITY TEST FOR TANK MIX COMPOUNDS IN WATER CARRIER

Before mixing components, always perform a compatibility jar test.

For 20 gallons per acre spray volume, use 3.3 cups (800 ml) of water. For other spray volumes, adjust accordingly. Only use water from the intended source at the source temperature.

Add components in the sequence indicated in the Mixing Order using 2 teaspoons for each pound or 1 teaspoon for each pint of recommended label rate per acre. Always cap the jar and invert 10 cycles between component additions.

When the components have all been added to the jar let the solution stand for 15 minutes. Evaluate the solution for uniformity and stability. The spray solution should not have free oil on the surface, nor fine particles that precipitate to the bottom, nor thick (clabbered) texture. If the spray solution is not compatible, repeat the compatibility test with the addition of a suitable compatibility agent. If the solution is then compatible, use the compatibility agent as directed on its label. If the solution is still incompatible, do not mix the ingredients in the same tank.

Mixing Order

If an inductor is used, rinse it thoroughly after each component has been added. Maintain constant agitation during application.

- 1) Water. Begin by agitating a thoroughly clean sprayer tank half full of clean water.
- 2) Agitation. Maintain constant agitation throughout mixing and application.
- 3) Products in PVA bags. Place any product contained in water-soluble PVA bags into the mixing tank. Wait until all water-soluble PVA bags have fully dissolved and the product is evenly mixed in the spray tank before continuing.
- 4) Water-dispersible products (such as dry flowables, wettable powders, suspension concentrates, or suspo-emulsions).
- 5) Water-soluble products. (such as Banvel + 2,4-D)
- 6) Emulsifiable concentrates (such as oil concentrate when applicable).
- 7) Water-soluble additives (such as liquid fertilizers (28-0-0,32-0-0) when applicable).
- 8) Remaining quantity of water.

SPRAYABLE LIQUID FERTILIZERS

Banvel + 2,4-D can be applied in combination with a sprayable liquid fertilizer carrier.

When tank mixing with liquid fertilizer, always add the fertilizer to the spray tank first, filling tank more than one half full and agitate thoroughly before adding Banvel + 2,4-D. Always predetermine the compatibility with liquid fertilizer by mixing small proportional quantities in advance. Agitation must be maintained during filling and application operations to ensure that Banvel + 2,4-D is evenly mixed with the fertilizer. Also, when using a sprayable fluid fertilizer as the carrier, any product contained in PVA bags must first be completely dissolved in water before the contents can be added to the fertilizer mix.

Leaf burn may occur when Banvel + 2,4-D is applied with liquid fertilizer, but new leaves are not adversely affected. Do not apply fertilizers or spray additives with Banvel + 2,4-

D if leaf burn is a major concern due to environmental conditions, crop or variety sensitivity. Do not apply Banvel + 2,4-D in combination with fertilizer or spray additive if restricted under the individual crop use directions.

CROP ROTATIONAL RESTRICTIONS

The interval between application and planting rotational crop is given below. Always exclude if the ground is frozen. Planting at intervals less than specified below may result in crop injury. Moisture is essential for the degradation of this herbicide in soil. If dry weather prevails, use cultivation to allow herbicide contact with moist soil.

Planting/ replanting restrictions for Banvel + 2,4-D applications of 5.6 pints per acre or less: No rotational cropping restrictions apply at 120 days or more following application. Additionally, for this label including sorghum, follow the preplant use directions in section Crop Specific Information. For barley, oat, wheat, and other grass seedings, the interval between application and planting is 10 days per pint per acre.

Rainfast Period: Rainfall or irrigation occurring within 4 hours after postemergence applications may reduce the effectiveness of Banvel + 2,4-D.

Stress: Do not apply to crops under stress such as stress due to lack of moisture, hail damage, flooding, herbicide injury, mechanical injury, or widely fluctuating temperatures, as unsatisfactory control may result.

Do not apply to crops that show injury (leaf phytotoxicity or plant stunting) produced by any other prior herbicide applications, because this injury may be enhanced or prolonged.

Do not apply through any type of irrigation equipment. Do not contaminate irrigation ditches or water used for domestic purposes

This product cannot be used to formulate or reformulate any other pesticide product.

FOOD/FEED CROP-SPECIFIC INFORMATION

PASTURES, RANGELAND AND GRASS (HAY, SILAGE)

Banvel + 2,4-D is recommended for use for pasture (including pasture grown for hay), rangeland, and grass grown for hay or silage.

Refer to Tables 1 and 2 for rate selection based on targeted weed or brush species. Some weed species will require tank mixes for adequate control.

Uses described in this section also pertain to small grains (such as barley, corn, forage sorghum, oats, rye, sudangrass, or wheat) grown for pasture, hay, and silage only. Newly seeded areas, including small grains grown for pasture or hay, may be injured if rates of Banvel + 2,4-D greater than 2 pints per acre are applied.

In newly established hybrid Bermudagrass, Pangolagrass, and stargrasses (*Cynodon* spp.), use 2-4 pints of Banvel + 2,4-D per acre to control or suppress weeds after planting vegetative propagules (stolens) of hybrid bermudagrasses. In addition to the weeds listed in Tables 1 and 2, this rate of Banvel + 2,4-D will control or suppress annual sedges, broadleaf signalgrass, crabgrass, and goosegrass. Best results will be obtained if Banvel + 2,4-D is applied at the germinating stage of weeds.

Under favorable conditions, this is usually 7-10 days after planting these grasses. Reduced control can be expected if weeds are allowed to reach 1 " in height before application or if germination of weeds occurs 10 days after application.

Do not use on bentgrass, susceptible grass pastures (such as carpetgrass, buffalograss, or St. Augustine grass), lespedeza, wild winter peas, vetch, clover, and alfalfa pastures as injury will occur.

When perennial weeds are reaching maturity, mowing and allowing some regrowth will enhance control. Difficult to control weeds and brush may require repeat applications. For pasture renovations, wait 3 weeks per quart (2 pints) of Banvel + 2,4-D used per acre before interseeding or injury may occur.

If grasses are grown for seed or for seed-down purposes, do not apply after grass reaches the joint stage.

Grazing and Feeding Non-lactating Animals: There is no waiting period between treatment and grazing for non-lactating animals. Do not permit meat animals being finished for slaughter to graze treated fields within 30 days of slaughter.

Grazing and Feeding Lactating Animals: Do not graze lactating dairy animals within 30 days of treatment.

Dry Hay and Silage: Treated grasses may be harvested for dry hay or silage but do not harvest within 30 days of treatment.

Pasture and Rangeland Restrictions:

Do not cut forage for hay within 7 days of application.

Pasture and Rangeland Restrictions, Postemergence:

For susceptible annual and biennial broadleaf weeds: Use 1.0 lbs. 2,4-D ae (2.78 pints product)/acre per application.

For moderately susceptible biennial and perennial broadleaf weeds: Use 1.0 to 2.0 lbs 2,4-D ae (2.78 – 5.6 pints product)/acre per application.

For difficult to control weeds and woody plants: Use 2.0 lbs. 2,4-D ae (5.6 pints product)/acre per application.

Spot Treatment: Use 2.0 lbs. 2,4-D ae (5.6 pints product)/acre.

Maximum of two applications per year.

Maximum of 4.0 lbs. 2,4-D ae (11.2 pints product)/acre per year.

Minimum of 30 days between applications.

If grass is to be cut for hay, Agricultural Use Requirements for Worker Protection Standard are applicable.

Pasture And Rangeland Tank Mixes:

Banvel + 2,4-D may be applied in tank mixes with one or more of the following herbicides:

Ally®
Amber®
Banvel®

Clarity®
Rave®

SORGHUM

Apply 1 pint of Banvel + 2,4-D per acre to sorghum in the 3-5 leaf stage (4-8" tall). For best performance, apply Banvel + 2,4-D when weeds are small (less than 3" tall).

Applications of Banvel + 2,4-D to sorghum during periods of rapid growth may result in temporary leaning of plants or rolling of leaves. These effects are usually outgrown within 10-14 days. Sorghum growing under conditions of stress such as high moisture, low fertility, and abnormal temperature may be more sensitive to applications of Banvel + 2,4-D.

Sorghum Restrictions:

Do not apply Banvel + 2,4-D to sorghum grown for seed production.

The preharvest interval (PHI) is 30 days.

Do not permit meat or dairy animals consume treated crop as fodder or forage for 30 days following application.

Sorghum Restictions, Postemergence:

Do not use surfactants or oils with postemergence applications of Banvel + 2,4-D on sorghum crops.

Do not use Banvel + 2,4-D if the potential for sorghum injury is not acceptable.

Limited to 1 application per crop cycle.

Maximum of 1.0 lb. 2,4-D ae (2.78 pints product)/acre per application.

Sorghum Tank Mixes

Banvel + 2,4-D may be applied in tank mixes with one of the following herbicides:

- Atrazine
- Basagran®
- Buctril®
- Laddok® S-12
- Paramount®
- Peak®
- Permit®

SUGARCANE

Applications of Banvel + 2,4-D can be made any time after the weeds have emerged and are actively growing but prior to the close-in stage of sugarcane. When possible, direct the spray beneath the sugarcane canopy in order to minimize the likelihood of crop injury. The use of directed sprays will also aid in maximizing spray coverage of weed foliage. Application rates and timing are given below. Use the higher level of the listed rate ranges when treating dense vegetation growth.

For control of listed annual broadleaf weeds, apply 2 pints of Banvel + 2,4-D per treated acre.

For suppression of listed perennial weeds, apply 1-5.6 pints of Banvel + 2,4-D per treated acre.

Sugarcane Restrictions:

Do not harvest cane prior to crop maturity.

Do not apply more than 4 lbs. 2,4-D ae (11.2 pints product)/acre per crop cycle.

Sugarcane Restrictions, Preemergence:

Limited to one application per crop cycle.

Maximum of 2.0 lbs. 2,4-D ae (5.6 pints product)/acre per application.

Sugarcane Restrictions, Postemergence:

Limited to one application per crop cycle.

Maximum of 2.0 lbs. 2,4-D ae (5.6 pints product)/acre per application.

Sugarcane Tank Mixes

Banvel + 2,4-D may be applied in tank mixes with one or more of the following herbicides:

- Asulox®
- Atrazine
- Evik®
- Lexone®
- Sencor®
- Sinbar®

WHEAT- (FALL AND SPRING SEEDED)

If small grains are grown for pasture or hay only, refer to Pasture, Rangeland and Grass (Hay and Silage).

Early Season Applications

Apply 0.5-1 pint of Banvel + 2,4-D per acre to wheat unless using one of the wheat specific programs below. Early season applications to spring-seeded wheat must be made after tillering and before wheat reaches the 6-leaf stage. Early season applications to fall-seeded wheat must be made after tillering and prior to the jointing

stage. Care should be taken in staging early developing wheat varieties such as TAM 107, Madison, or Wakefield to be certain that the application occurs prior to the jointing stage.

Specific Use Programs For Fall-Seeded Wheat Only

Up to 1.33 pints of Banvel + 2,4-D per acre may be applied on fall-seeded wheat after the wheat begins to tiller for suppression of perennial weeds, such as field bindweed. Applications may be made in the fall following a frost but before a killing freeze. Periods of extended stress such as cold and wet weather may enhance the possibility of crop injury. For fall applications only, do not use if the potential for crop injury is not acceptable.

Preharvest Applications

Banvel + 2,4-D can be used to control weeds that may interfere with harvest of wheat. Apply up to 2 pints of Banvel + 2,4-D per acre as a broadcast or spot treatment to annual broadleaf weeds when wheat is in the hard dough stage and the green color is gone from the nodes (joints) of the stem. Best results will be obtained if application can be made when weeds are actively growing but before weeds canopy. Do not use preharvest-treated wheat for seed unless a germination test is performed on the seed with an acceptable result of 95% germination or better. For control of additional broadleaf weeds or grasses, Banvel + 2,4-D may be tank mixed with other herbicides such as Ally or Roundup® Ultra that are registered for preharvest use in wheat.

Preharvest use of Banvel + 2,4-D is not registered for use in California.

Wheat Restrictions:

Do not graze or harvest for livestock feed prior to crop maturity.

Do not use Banvel + 2,4-D in wheat underseeded with legumes.

The preharvest interval (PHI) is 14 days.

Limited to 1.75 lbs. 2,4-D ae (4.9 pints product)/acre per crop cycle.

Wheat Restrictions, Postemergence:

Limited to one postemergence application per crop cycle.

Maximum of 1.25 lbs. 2,4-D ae (3.5 pints product) per application.

Wheat Restrictions, Preharvest:

Limited to one postemergence application per crop cycle.

Maximum of 0.5 lbs. 2,4-D ae (1.4 pints product) per application.

Wheat Tank Mixes

Tank Mix Partner	Rate Per Acre
------------------	---------------

Tank Mix Partner	Rate Per Acre
Aim™	0.3 ounce
Ally®	0.05-0.1 ounce ¹
Amber®	0.14-0.28 ounce ¹
Bronate®	0.75-1.5 pints
Buctril®	1-1.5 pints
Canvas®	0.2-0.4 ounce ¹
Curtail®	2-2.67 pints
Dakota®	16 fluid ounces
Express®	0.083-0.167 ounce ¹
Finesse®	0.167-0.33 ounce ¹
Glean®	0.167 ounce
Harmony® Extra	0.167-0.33 ounce ¹
Karmex® ³	0.5-1.5 pounds
2,4-D Amine	4-20 fluid ounces ⁴
Metribuzin ³ (Sencor®, Lexone®)	0.25-0.375 pound a.i
Peak® ¹	0.25-0.38 ounce
Stinger®	4-5.33 fluid ounces
Tiller® ²	1-1.7 pints

¹ Do not use low rates of sulfonylurea herbicides, such as Ally, Amber, Canvas, Express, Finesse, Glean, Harmony Extra, and Peak on more mature weeds or on dense vegetative growth.

² Do not use Banvel + 2,4-D as a tank mix treatment with Dakota or Tiller on Durum wheat. Do not tank mix with Tiller if wild oat is the target weed.

³ Tank mixes with Karmex and metribuzin are for use in fall-seeded wheat only.

⁴ Banvel +2,4-D contains 0.36 pounds a.e. of 2,4-D per pint. When tank mixing with 2,4-D, do not exceed a combined total of 1.0 pound a.e. per acre of 2,4-D and do not exceed 0.5 pound a.e. of 2,4-D unless injury to wheat is acceptable.

**BETWEEN CROP APPLICATIONS, CONSERVATION RESERVE PROGRAMS,
GENERAL FARMSTEAD AND FALLOW SYSTEMS**

These uses are considered Food/Feed Crops when harvested, grazed or foraged. Consult Table 3 for adjuvant restrictions and Table 7 for specific use directions.

Restrictions:

- Plant only labeled crops within 29 days following application.
- Limited to 2 applications per year.
- Maximum of 2.0 lbs. 2,4-D ae (5.6 pints product) /acre per application.
- Minimum of 30 days between applications/

**NON-FOOD/FEED USE (LAND NOT HARVESTED, GRAZED OR FORAGED)-
SPECIFIC INFORMATION**

BETWEEN CROP APPLICATIONS

Preplant Directions (Postharvest, Fallow, Crop Stubble, Set-Aside) For Broadleaf Weed Control:

Banvel + 2,4-D can be applied either postharvest in the fall, spring, or summer during the fallow period or to crop stubble/set-aside acres. Apply Banvel + 2,4-D as a broadcast or spot treatment to emerged and actively growing weeds after crop harvest (postharvest) and before a killing frost or in the fallow cropland or crop stubble the following spring or summer.

See Crop Rotational Restrictions for the recommended interval between application and planting to prevent crop injury.

Rates And Timings

Apply 0.5-5.5 pints of Banvel + 2,4-D per acre. Refer to Table 1 to determine use rates for specific targeted weed species. For best performance, apply Banvel + 2,4-D when annual weeds are less than 6" tall, when biennial weeds are in the rosette stage and to perennial weed regrowth in late summer or fall following a mowing or tillage treatment. The most effective control of upright perennial broadleaf weeds such as Canada thistle and Jerusalem artichoke occurs if Banvel + 2,4-D is applied when the majority of weeds have at least 4-6" of regrowth or for weeds such as field bindweed and hedge bindweed that are in or beyond the full bloom stage.

Avoid disturbing treated areas following application. Treatments may not kill weeds that develop from seed or underground plant parts such as rhizomes or bulblets, after the effective period for Banvel + 2,4-D. For seedling control, a follow-up program or other culture practices could be instituted.

Fallowland (crop stubble on idle land, or postharvest to crops, or between crops) Restrictions:

Plant only labeled crops within 29 days following application.

Limited to 2 applications per year.

Maximum of 2.0 lbs. 2,4-D ae (5.6 pints product)/acre per application.

Minimum of 30 days between application.

Between Crop Tank Mixes

In tank mixes with one or more of the following herbicides; apply 0.5-2 pints of Banvel + 2,4-D per acre for control of annual weeds, or 2-8 pints of Banvel+ 2,4-D per acre for control of biennial and perennial weeds:

- | | |
|---------------|--------------------|
| Aim™ | Glyphosate |
| Ally® | Gramoxene I® Extra |
| Amber® | Kerb® |
| Atrazine | Landmaster® BW |
| Bladex® | Paramount® |
| Curtail® | Sencor® |
| Cyclone® | Tordon® 22K |
| Distinct® | Touchdown® |
| Fallowmaster® | 2,4-D |
| Finesse® | |

CONSERVATION RESERVE PROGRAMS AND GENERAL FARMSTEAD

Banvel + 2,4-D is recommended for use for Conservation Reserve Programs; general farmstead (non-cropland only), weed and brush control, or in State Recognized Noxious Weeds areas (non-cropland areas.)

Refer to Tables 1 and 2 for rate selection based on targeted weed or brush species. Some weed species will require tank mixes for adequate control. Rates above 4 pints of Banvel + 2,4-D per acre are for spot treatments only. See Use Restrictions below.

FARMSTEAD AND FENCEROW TREATMENT APPLICATION INSTRUCTIONS

Banvel + 2,4-D may be applied using water or oil and water emulsions in spot application to control undesirable vegetation using handgun or similar types of application equipment. In addition to weed species listed in Tables 1 and 2, these treatments may be used to control or suppress woody plant species listed in Table 5.

To prepare oil and water emulsions, mix in the order and proportions indicated below. The solution should remain milky colored without an oily layer on top when under agitation. If an oily layer forms, increase the amount of emulsifier or change to a more effective emulsifier.

Do not exceed 40 gallons of spray solution per treated acre per application. Forty gallons of spray solution contains 1.0 pound acid equivalent of dicamba and 2.87 pounds acid equivalent of 2,4-D. Spray plants to wet. Do not allow this spray mix to contact desirable vegetation.

To control brush, briars, and weeds along fencerows surrounding pasture and ranch lands, and fallow fields, use a tank mix of 2.5% of Banvel + 2,4-D, 87.5% water, 10% diesel oil, and sufficient emulsifier (to mix the diesel and emulsifier). The diesel oil in this tank mix will damage or kill desirable grasses and should not be used in pastures or where damage to desirable species cannot be tolerated.

- 1) Water: Begin by agitating a thoroughly clean sprayer tank with the desired quantity of clean water. Maintain constant agitation during complete mixing procedure.
- 2) Emulsifier: Add 0.5% volume to volume
- 3) Banvel +2,4-D: Add 2.5 gallons per 100 gallons of total intended solution.
- 4) Diesel Oil: Add 10 gallons per 100 gallons of total intended solution.

Maintain constant agitation during application. Under good agitation, the spray solution should be milky white with no oil layer on top. If an oil layer forms, increase the amount of emulsifier or change to a more effective emulsifier.

CRP, Farmstead and Fencerow Treatment Restrictions, Postemergence – annual and perennial weeds:

Limited to 2 applications per year.

Maximum of 2.0 lbs. 2,4-D ae (5.6 pints product)/are per application.

Minimum of 30 days between application.

CRP, Farmstead and Fencerow Treatment Restrictions, Postemergence – woody plants:

Limited to 1 application per year.

Maximum of 4.0 lbs. 2,4-D ae (11.2 pints product)/acre per year.

Applications to non-cropland areas are not applicable to treatment of commercial timber or other plants being grown for sale or other commercial use, or for commercial seed production, or for research.

SPRAYING FOLIAR APPLICATIONS

1. Spray when leaves have reached full size but have not hardened due to drought or maturity.
2. Spray individual plants to wet with handgun.
3. For larger stems (up to 3" in diameter) and hard to control species, direct spray stream to base of stems to wet the stem at soil surface in addition to wetting the foliage.
4. Do not apply under drip line of desirable trees or adjacent to desirable vegetation.

DORMANT BASAL APPLICATIONS

1. Increase diesel oil content to 15% or 15 gallons of diesel oil per 100 gallons of total solution.
2. Spray in late winter and early spring before plants break dormancy.
3. Spray the bottom 24" of the target stem to wet on all sides.

- 4. For larger stems (up to 3" in diameter) and hard to kill species, direct the spray solution to the base of target stems to wet the soil at the stem/soil junction in addition to wetting the stem.
- 5. Do not apply under drip line of desirable trees or adjacent to desirable vegetation.

For Cut Surface Treatments: Apply Banvel + 2,4-D in an undiluted state as a cut surface treatment to control unwanted trees and prevent sprouts of cut trees.

Frill or Girdle Treatments: Make a continuous cut or a series of overlapping cuts using an axe to girdle tree trunk. Spray or paint the cut surface with Banvel + 2,4-D.

Stump Treatments: Spray or paint freshly cut surface with Banvel + 2,4-D. The cambium layer (the area adjacent to the bark) should be thoroughly wet. Treat stumps within 6 hours after cutting.

Table 5. The following list of trees and vines can be controlled on farmsteads and fencerows as foliar, basal, or cut surface treatments:

Alder	Kudzu
Ash	Locust, Black
Aspen	Maple
Basswood	Mesquite
Beech	Oak
Blackberry	Oak, Poison
Blackgum	Olive, Russian
Cedar	Persimmon, Eastern
Cherry	Pine
Chinquapin	Plum, Sand (Wild Plum)
Cottonwood	Poplar
Creosotebush	Rabbitbrush
Dewberry	Red Cedar, Eastern
Dogwood	Rose, McCartney
Elm	Rose, Multiflora
Grape	Sagebrush, Fringe
Greenbriar	Sassafras
Hawthorn Thornapple	Spruce
Hemlock	Sumac
Hickory	Sweetgum
Honeylocust	Sycamore
Honeysuckle	Tarbush
Hornbeam	Willow
Huckleberry	Witchhazel
Huisache	Yaupon
Ivy, Poison	Yucca

WEEDS LISTED IN THIS LABEL

COMMON NAME	SCIENTIFIC NAME
ANNUALS	
Beebalm, Spotted	<i>Monarda punctata</i>
Broomweed, Common	<i>Gutierrezia dracunculoides</i>
Buckwheat, Wild	<i>Polygonum convulvulus</i>
Buffalobur	<i>Solanum rostratum</i>
Burdock	<i>Arctium spp.</i>
Buttercup, Corn	<i>Ranunculus arvensis</i>
Chickweed, Common	<i>Stellaria media</i>
Cockle, Corn	<i>Agrostemma githago</i>
Cocklebur, Common	<i>Xanthium strumarium</i>
Coreopsis, Plains	<i>Coreopsis tinctoria</i>
Croton, Woolly	<i>Croton capitatus</i>
Devilsclaw	<i>proboscidea luisianica</i>
Dogfennel (Cypressweed)	<i>Eupatorium capillifolium</i>
Evening Primrose, Cutleaf	<i>Oenothera lacinata</i>
Falseflax, Smallseed	<i>Linum catharticum</i>
Fleabane, Annual	<i>Erigeron annuus</i>
Flixweed	<i>Descurainia sophia</i>
Henbit	<i>Lamium amplexicaule</i>
Knotweed, Prostrate	<i>Polygonum aviculare</i>
Kochia	<i>Kochia scoparia</i>
Lambsquarters, Common	<i>Chenopodium album</i>
Lettuce, Prickly	<i>Lactuca serriola</i>
Mallow, Common	<i>Malva neglecta</i>
Morningglory, Ivyleaf , Tall	<i>Ipomea hederacea</i> <i>Ipomea purpurea</i>
Mustard, Annual , Tansy	<i>Brassica spp.</i> <i>Descurainia pinnata</i>
Pennycress, Field	<i>Thlaspi arvense</i>
Pepperweed, Virginia	<i>Lepidium virginicum</i>
Pigweed, Prostrate , Redroot , Smooth , Tumble	<i>Amaranthus blitoides</i> <i>Amaranthus retroflexus</i> <i>Amaranthus hybridus</i> <i>Amaranthus albus</i>
Poorjoe	<i>Diodia teres</i>
Purslane, Common	<i>Portulaca oleracea</i>
Ragweed, Common , Lance-Leaf , Western	<i>Ambrosia artemisiifolia</i> <i>Ambrosia bidentata</i> <i>Ambrosia psilostachya</i>
Sedge	<i>Cyperus compressus</i>
Shepherdspurse	<i>Capsella bursa-pastoris</i>
Smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>
Sneezeweed, Bitter	<i>Helenium amurum</i>
Sunflower, Common (Wild)	<i>Helianthus annuus</i>

COMMON NAME	SCIENTIFIC NAME
ANNUALS	
Thistle, Russian	<i>Salsola iberica</i>
Velvetleaf	<i>Abutilon theophrasti</i>

BIENNIALS AND PERENNIALS

COMMON NAME	SCIENTIFIC NAME
Bindweed, Field	<i>Convolvulus arvensis</i>
Bittercress	<i>Cardamine spp.</i>
Buckeye	<i>Aesculus spp.</i>
Bullnettle	<i>Cnidoscopus stimulosus</i>
Chicory	<i>Cichorium intybus</i>
Clover, Hop	<i>Trifolium aureum</i>
Dandelion	<i>Taraxacum officinale</i>
Dock, Curly	<i>Rumex crispus</i>
Elderberry	<i>Sambucus canadensis</i>
Goldenrod, Missouri	<i>Solidago missouriensis</i>
Goldenweed, Common	<i>Isocoma coronopifolia</i>
Groundsel	<i>Senecio vulgaris</i>
Honeysuckle, Hairy	<i>Lonicera</i>
Horsenettle	<i>Solanum carolinense</i>
Ivy, Poison	<i>Rhus radicans</i>
Knapweed, Black	<i>Centaurea nigra</i>
, Russian	<i>Centaurea repens</i>
, Spotted	<i>Centaurea maculosa</i>
Marshelder	<i>Ina annua</i>
Mesquite	<i>Prosopis juliflora</i>
Milkweed,	<i>Asclepius</i>
Nightshade, Silverleaf	<i>Solanum elaeagnifolium</i>
, Black	<i>Solanum nigrum</i>
Persimmon, Eastern	<i>Diospyros virginiana</i>
Rabbitbrush	<i>Chrysanthemus pulchellus-</i>
Ragwort, Tansy	<i>Senecio jacobia</i>
Redvine	<i>Brunnichia ovata-</i>
Sagebrush, Fringed	<i>Artemisia frigida</i>
Smartweed, Swamp	<i>Polygonum coccineum</i>
Sorrel, Red (Sheep Sorrel)	<i>Rumex acetosella</i>
Sowthistle, Perennial	<i>Sonchus arvensis</i>
Spurge, Leafy	<i>Euphorbia esula</i>
Starthistle, Yellow	<i>Centaurea solstitialis</i>
Tallow Tree, Chinese	<i>Sapium sebiferum</i>
Thistle, Bull	<i>Cirsium vulgare</i>
, Canada	<i>Cirsium arvense</i>

COMMON NAME	SCIENTIFIC NAME
, Musk	<i>Carduus nutans</i>
, Plumeless	<i>Carduus acanthoides</i>
Vetch	<i>Vicia spp.</i>
Yankeeeweed	<i>Eupatorium compositifolium</i>

FOOD/FEED CROP USES

This product can be used on the following crops:

- Grain Sorghum
- Grass (Hay or Silage)
- Pastures
- Rangeland
- Sugarcane
- Wheat

NON-CROPLAND USES

- *Conservation Reserve Program Land
- *Fallow Systems (Between Crop Applications)
- *General Farmstead

* These crops are considered Food/Feed crops only when harvested, grazed or foraged. Otherwise, they are considered as non-Food/Feed uses.

CONDITIONS OF SALE

1. The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Such risks may arise from weather conditions, soil factors, off-target movement, unconventional farming techniques, the presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of Arysta LifeScience North America Corporation ("Arysta"), and can cause crop injury, injury to non-target crops or plants, ineffectiveness of the product, or other unintended consequences. All such risks shall be assumed by the user or buyer.
2. Arysta warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal conditions.

3. This warranty does not extend to the use of this product contrary to label instructions or under conditions not reasonably foreseeable to Arysta, and is subject to the inherent risks described above.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ARYSTA DISCLAIMS ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ARYSTA, MANUFACTURER, AND SELLER DISCLAIM AND SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE, HANDLING, APPLICATION, STORAGE, OR DISPOSAL OF THIS PRODUCT OR FOR DAMAGES IN THE NATURE OF PENALTIES, AND THE USER AND BUYER WAIVE ANY RIGHT THAT THEY MAY HAVE TO SUCH DAMAGES. NO AGENT, REPRESENTATIVE OR EMPLOYEE OF ARYSTA IS AUTHORIZED TO MAKE ANY WARRANTY, GUARANTEE OR REPRESENTATION BEYOND THOSE CONTAINED HEREIN OR TO MODIFY THE WARRANTIES CONTAINED HEREIN.

4. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE TOTAL LIABILITY OF ARYSTA, MANUFACTURER, AND SELLER, SHALL BE LIMITED TO THE PURCHASE PRICE PAID, OR AT ARYSTA'S ELECTION, THE REPLACEMENT OF THE PRODUCT.

Banvel, Clarity, Distinct, Fallowmaster, Paramount and Weedmaster are registered trademarks of BASF Corporation.

Basagran and Laddok are registered trademarks of BASF AG.

Ally, Bladex, Canvas, Express, Finesse, Glean, Harmony, Karmex, Lexone, and Sinbar are registered trademarks of E.L. Du Pont de Nemours & Company.

Asulox is a registered trademark of Rhone-Poulenc Agriculture Ltd.

Amber, Evik, and Peak are registered trademarks of Novartis.

Bronate and Kerb are registered trademarks of Rohm and Haas Company.

Buctril is a registered trademark of Rhone-Poulenc AG Company.

Curtail, Stinger, and Tordan are registered trademarks of Dow AgroSciences LLC.

Cyclone and Touchdown are registered trademarks of Zeneca, Inc.

Dakota and Tiller are registered trademarks of AgrEvo USA Company.

Gramoxone is a registered trademark of Zeneca Ltd.

Landmaster and Roundup Ultra are registered trademarks of Monsanto Company.

Permit is a registered trademark of Nissan Chemical Industries, Ltd.

Rave is a trademark of Novartis AG.

Sencor is a registered trademark of Bayer AG.

Aim is a trademark of FMC Corporation.