

## U.S. EN AONMENTAL PROTECTION AGENCY

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

Washington, D.C. 20460

NOTICE OF PESTICIDE:

x RegistrationReregistration(under FIFRA, as amended)

EPA Reg.

Number:

70506-245

Date of Issuance:

OCT 27 2011

Term of Issuance: Unconditional

Name of Pesticide Product:

OXBOW<sup>TM</sup> 2E

Name and Address of Registrant (include ZIP Code): United Phosphorus, Inc c/o Pyxis Regulatory Consulting, Inc 4110 136<sup>th</sup> St NW Gig Harbor, WA 98332

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

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

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

- 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 the label is enclosed for your records. Submit one (1) copy of the final printed label 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.

If you have any questions regarding this Notice, please contact Grant Rowland at (703) 347-0254 or at rowland.grant@epa.gov.

Signature of Approving Official:

Kay Montague

Product Manager

Herbicide Branch

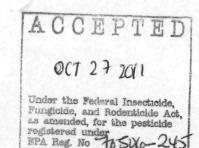
Registration Division (7505P)

Date:

OCT 27 2011

EPA Form 8570-6

## OXBOW™ 2E HERBICIDE



# WARNING – AVISO

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 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 swallowed:	Call a poison control center or doctor immediately for treatment advice. Have a person sip a glass of water if able to swallow. <b>DO NOT</b> induce vomiting unless told to do so by a poison control center or doctor. <b>DO NOT</b> give anything by mouth to an unconscious person.
	ian: Probable mucosal damage may contraindicate the use of gastric lavage. This product spiration pneumonia hazard. Contains petroleum distillates.
Hot Line Numb doctor, or going	per: Have the product container or label with you when calling a poison control center or for treatment. FOR EMERGENCY MEDICAL ASSISTANCE, CALL THE ROCKY DISON CONTROL CENTER 1-866-673-6671.

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.

**Shake Well Before Using** 

Manufactured for: United Phosphorus, Inc. 630 Freedom Business Center, Suite 402 King of Prussia, PA 19406

EPA Registration No: 70506-EPA Est. No. \_\_\_\_\_ Net Contents:

## PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

## WARNING

Causes substantial but temporary eye injury. Causes skin irritation. Harmful if swallowed or absorbed through the skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. **DO NOT** get in eyes, on skin or on clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

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

Mixers, loaders, and applicators using engineering controls (see Engineering Controls requirements below) must wear:

- Long-sleeved shirt and long pants
- · Shoes plus socks
- · Chemical-resistant gloves when mixing and loading
- · Chemical-resistant apron when mixing and loading

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

- · Coveralls over long-sleeved shirt and long pants
- · Chemical-resistant footwear plus socks
- Chemical-resistant gloves
- Chemical-resistant headgear when exposed overhead
- Chemical-resistant apron when exposed to the concentrate

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. **DO NOT** reuse them. 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.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standards (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.

## **USER SAFETY RECOMMENDATIONS**

#### Users should:

- · Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- •Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

•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.

**Engineering Controls**: Mixers and loaders supporting aerial applications to fallow land or ground applications to corn, cotton or soybeans must use a closed system that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4)], and must:

- Wear the personal protective equipment required above for mixers/loaders using engineering controls
- · Wear protective eyewear if the system operates under pressure, and
- Be provided and have immediately available for use in case of emergency, such as a broken package, spill, or equipment breakdown: coveralls and chemical-resistant footwear.

Handlers performing applications to corn must use an enclosed cab that meets the definition in the Worker Protection Standard for agricultural pesticides [40 CFR 170.240(d)(5)] for dermal protection. In addition, such applicators must:

- Wear the personal protective equipment required above for applicators using engineering controls
- Be provided and must have immediately available for use in an emergency when they
  must exit the cab in the treated area: coveralls, chemical-resistant gloves, chemicalresistant footwear, and chemical-resistant headgear, if overhead exposure
- Take off any PPE that was worn in the treated area before reentering the cab, and
- Store all such PPE in a chemical-resistant container, such as a plastic bag, to prevent contamination of the inside of the cab.

#### **ENVIRONMENTAL HAZARDS**

This product is toxic to aquatic invertebrates and wildlife. **DO NOT** apply directly to water, or areas where surface water is present or to intertidal areas below the mean high water mark. Runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. See Directions for Use for additional restrictions. **DO NOT** contaminate water when disposing of equipment wash water.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

**DO NOT** apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

## AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard 40 CFR Part 170. This Standard contains requirements for the protection of agricultural worker 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 24 hours except for the following:

Onions, garlic and horseradish: the REI is 48 hours

·Conifer seedlings: the REI is 3 days

·Conifer trees: the REI is 6 days

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
- ·Shoes plus socks
- ·Chemical-resistant gloves made of any waterproof material

## 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.

Keep unprotected persons out of treated areas until sprays have dried.

### APPLICATION INSTRUCTIONS AND RESTRICTIONS

Oxbow 2E may be applied for preemergence and postemergence weed control in labeled crops as indicted in this label. All use directions as provided in the Application Instructions and Restrictions section and crop-specific sections of this label, must be followed.

#### RESTRICTIONS:

THE FOLLOWING USE RESTRICTIONS APPLY TO ALL REGISTERED USES OF THIS PRODUCT: (NOTE: SEE DIRECTIONS FOR USE FOR INDIVIDUAL CROPS FOR CROPSPECIFIC USE RESTRICTIONS.)

 Read and observe all label directions before using. When tank mixing, read and carefully follow all applicable use directions, precautions, and limitations on the respective product labels. In interpreting all labels for the tank mixture, the most restrictive situations must apply.

- The annual maximum application rate for all food/feed crops is 1.5 lbs ai/Acre.
- DO NOT contaminate irrigation water or water used for domestic purposes.
- DO NOT use any plants treated with Oxbow 2E for feed or forage.
- . DO NOT feed or allow animals to graze on any areas treated with Oxbow 2E.
- Oxbow 2E should be applied only by ground application equipment except as otherwise allowed or directed in specific use directions.
- DO NOT apply when weather conditions favor drift. Avoid drift to all non-target areas.
   Oxbow 2E is phytotoxic to plant foliage.
- DO NOT treat ditch banks or waterways with Oxbow 2E.

## **Spray Drift Buffer Restrictions**

- A 25-foot vegetative buffer strip must be maintained between all areas treated with this
  product and lakes, reservoirs, rivers, permanent streams, marshes or natural ponds,
  estuaries and commercial fish farm ponds.
- Do not allow spray to drift from the application site and contact people, structures that
  people occupy at any time and the associated property, parks and recreation areas, nontarget crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals.
- For ground boom applications, apply with nozzle height no more than 4 feet above the ground or crop canopy when wind speed is 10 mph or less at the application site as measured by an anemometer.
- Use coarse spray according to ASAE 572 definition for standard nozzles or VMD of 475 microns for spinning atomizer nozzles.
- The applicator also must use all other measures necessary to control drift.

#### **ROTATION CROP RESTRICTIONS**

- DO NOT rotate to small-grain crops (includes barley, buckwheat, corn, pearl millet, proso millet, oats, popcorn, rice, rye, sorghum, triticale, wheat, wild rice) within 10 months following an oxyfluorfen treatment.
- DO NOT direct seed any crops, other than Oxbow 2E -labeled crops, within 60 days following a treatment with Oxbow 2E.
- DO NOT transplant seedling crops, other than Oxbow 2E -labeled crops, within 30 days following treatment with Oxbow 2E.

Important: Treated soil must be thoroughly incorporated to a depth of 4 inches after harvest (or abandoning) of the treated crop but prior to planting of the rotational crop. Failure to achieve this thorough and complete incorporation or to follow the required minimum plant-back interval may result in crop injury, stand reduction and/or vigor reduction of the plant-back crop. See specific fallow bed labeling regarding crop planting information for applicators of Oxbow 2E that are made to a fallow bed or fallow field.

## WEEDS CONTROLLED

Common Name	Scientific Name	
ageratum	Ageratum conyzoides	(F)
amaranth, spiny	Amaranthus spinosus	

Momordica charantia	
Echinochola crus-galli	
Echinocholoa crus-galli	
Cardamine oligosperma	
Poa annua	
Polygonum convolvulus	A COLUMN
Ranunculus aborvitus	
Borreria laevis	
Heterotheca subaxillaris	
Phalaris canariensis	
Mollugo verticillata	
	PO AL YO
	40 3.14
	77.73
	1.7
	11.5
	No. 18 William
	HARRY TO
	100
Ipomoea purpurea	The same
Brassica nigra	
Chorispora tenella	
Brassica campestris	
	Echinochola crus-galli Echinochola crus-galli Cardamine oligosperma Poa annua Polygonum convolvulus Medicago hispida Ranunculus aborvitus Borreria laevis Heterotheca subaxillaris Phalaris canariensis Mollugo verticillata Malva parviflora Trifolium pratense Trifolium repens Xanthium pensylvanicum Digitaria sanguinalis Crotalaria species Croton glandulosus Gnaphalium falcatum Oenothera laciniata Amsinckia intermedia Erodium botrys Erodium cicutarium Eridium magustifolium Descurainia sophia Setaria faberi Setaria viridis Setaria lutescens Geranium carolinianum Eleusine indica Physalis angulata Physalis wrightii Senecio vulgaris Lamium amplexicaule Conyza canadensis Datura stramonium Sorghum halepense Polygonum persicaria Chenopodium album Lactuca serriola Malva parviflora Anthemis cotula Ipomoea species Ipomoea purpurea Brassica nigra Chorispora tenella

Common Name	Scientific Name	
mustard, tumble (Jim hill mustard)	Sisymbrium altissimum	
mustard, wild	Brassica kaber	
nettle, burning	Urtica urens	
nightshade, American black	Solanum americanum	
nightshade, black	Solanum nigrum	
nightshade, hairy	Solanum sarrachoides	37.1
oats, wild	Avena fatua	0
orach, red	Atriplex rosea	
panicum, fall	Panicum dichotomiflorum	1
pepperweed,Virginia	Lepidium virginicum	W PL
pepperwood, yellowflower	Lepidium perfoliatum	We.
pigweed, prostrate	Amaranthus blitoides	Season.
pigweed, redroot	Amaranthus retroflexus	
pimpernel, scarlet	Anagallis arvensis	Pol Control
poinsettia, wild	Euphorbia heterophylla	
puncturevine	Tribulus terrestris	4.4
purslane, common	Portulaca oleracea	254
pusley, florida	Richardia scabra	
ragweed, common	Ambrosia artemisiifolia	
redmaids	Calandrinia caulescens	S.E.
rocket, London	Sisymbrium irio	170
ryegrass, Italian	Lolium multiflorum	
sage, lanceleaf	Salvia reflexa	
sandbur, field	Cenchrus inertus	
sandspurry, red	Spergularia ruba	17
sesbania, hemp	Sesbania exaltata	A 17 P
shepherdspurse*	Capsella bursa-pastoris	1194
sicklepod	Cassia obtusifolia	
sida, prickly (teaweed)	Sida spinosa	100
signalgrass, broadleaf	Brachiaria platyphylla	Just
smartweed, pennsylvania	Polygonum pensylvanicum	
sorrel, red (from seed)	Rumex acetosella	
sowthistle, annual	Sonchus oleraceus	1,1
speedwell, birdseye	Veronica persica	
spurge, garden	Euphorbia hirta	
spurge, prostrate**	Euphorbia supine	ale de la
spurge, spotted**	Euphorbia maculate	
spurry, corn	Spergula arvensis	
tansymustard	Descurainia pinnata	12
thistle, bull**	Cirsium vulgare	
thistle, Russian	Salsola kali	
velvetleaf	Abutilon theophrasti	
witchgrass	Panicum capillare	
witchweed	Striga asiatica	
woodsorrel, common yellow**	Oxalis stricta	7

<sup>\*</sup> Highest rate and/or multiple applications may be required for acceptable control.

<sup>\*\*</sup> Preemergence control only.

## **Application Methods and Recommended Cultural Practices**

## Preemergence Weed Control

Apply the specified rate in a broadcast spray volume of 15 or more gallons of water per acre using calibrated spray equipment capable of uniform application to the soil surface. Seedling weeds are controlled as they come in contact with the soil-applied herbicide during emergence. Preemergence weed control is most effective when Oxbow 2E is applied to soil surfaces that are clean (free of crop or weed residues or clippings) and weed-free. Prior to application, weed or crop residues should be removed by thorough incorporation into the soil using tillage equipment or by blowing the area to be treated. At least 0.25 inch of irrigation or rainfall is required to activate Oxbow 2E and should occur within 3 to 4 weeks after application. For optimum results, Oxbow 2E should be applied to prepared beds or soil surfaces that will be left undisturbed during the time period for which weed control is desired. Cultural practices that disturb or redistribute surface soil following treatment with Oxbow 2E such as cutting water furrows will reduce weed control effectiveness.

**Application Rates and Rate Ranges:** Where rate ranges are given, use the lower rate range on coarse texture soils with less than 1% organic matter and lighter weed infestations. Use higher rates in the rate range on medium to fine texture soils, soils containing greater than 1% organic matter, heavy weed infestations, or for extended residual preemergence weed control.

## Postemergence Weed Control

Apply the specified rate in a broadcast spray volume of 20 or more gallons of water per acre (a minimum 10 gallons if applying Oxbow 2E in tank mix with glyphosate). Because Oxbow 2E is a contact herbicide, complete and uniform coverage of weed foliage is essential for optimum postemergence control. Increase the spray volume to ensure complete and uniform coverage as weed height and density increases or in the presence of heavy trash (weed or crop residue). Postemergence applications of Oxbow 2E are most effective when made to weeds at the seedling stage. Applications made later than the 4-inch or4leaf stage may result in partial control or suppression. Postemergence applications should be made to seedling grasses not exceeding the 2-leaf stage. The addition of 0.25% v/v (2 pints per 100 gallons of spray) of an 80% active nonionic surfactant, labeled for application to growing crops, will enhance herbicidal effectiveness in controlling emerged weeds.

Postemergence Application Rates: Where a rate range is given, use a higher rate in the rate range for heavy weed infestations, weeds in advanced stages of growth or for extended residual preemergence weed control following control of existing emerged weeds.

#### **Ground Application**

**Ground Broadcast:** Apply Oxbow 2E using conventional low-pressure ground spray equipment with flat fan nozzles. Follow manufacturer's instructions for spraying pressure and boom height. An off-center (OC) nozzle positioned at the end of the boom may be desired. Check calibration of spray equipment before each use.

**Directed Sprays:** Apply Oxbow 2E as a coarse low-pressure spray in a spray volume of 20 or more gallons of spray per acre (broadcast basis). Follow manufacturer's instructions for nozzle spacing and operating pressure. Spray should be directed toward the soil at the base of the

crop. In row crops, use a minimum of 2 flat fan nozzles per row (one on each side) and for optimum spray coverage use4flat fan nozzles per row (two on each side). The 2 forward nozzles should point forward and downward while the rear nozzles should point to the rear and downward. With either sprayer system, nozzles should be adjusted to cover the weed foliage but minimize contact with the crop. Do not apply with hollow cone nozzles.

**IMPORTANT:** Oxbow 2E is a contact herbicide. Contact of sprays or drift with foliage or green stems can cause severe crop injury. Use directed sprays and spray shields and/or leaf lifters as necessary to minimize contact of spray or drift with crop foliage or stems. Young green stems of woody plants are also susceptible to injury from spray contact. Potential for injury to woody stems diminishes with loss of green color and the development of relatively impervious non-living corky tissue (bark) on the surface of the stem.

Band Application: Application rates listed in this label are for broadcast application. For band application, the rate per broadcast acre should be reduced according to the following formula:

Band Width (in inches) X Rate per Row Width (in inches) Broadcast Acre

 Amount Needed per Acre for Banded Application

## **Spot Application:**

For spot application, apply sprays uniformly to soil for preemergence weed control or on a spray-to-wet basis for postemergence weed control. Mix the required amount of Oxbow 2E with the specified amount of water. For preemergence weed control, use one-half to one gallon of spray per 1000 sq ft. For postemergence weed control use a minimum of 1 gallon of spray per 1000 sq ft and add an 80% nonionic surfactant at the rate of 0.5fl oz (1 tablespoon) per gallon of spray. If making spot applications within an established crop, use coarse low-pressure sprays and direct the spray to the soil beneath the plants. To avoid crop injury, do not allow spray to contact leaves and stems of herbaceous plants or leaves or green stems of woody plants.

Am	ount of Oxbow 2E	Required to Treat	1000 sq. ft. at Spec	cified Application F	Rate
0.5 pt/A	1.0 pt/A	2.0 pt/A	3.0 pt/A	4.0 pt/A	8.0 pt/A
0.2 fl oz.	0.4 fl oz.	0.75 fl oz.	1.1 fl oz.	1.5 fl oz.	3.0 fl oz.
(5.5 ml)	(11 ml)	(22 ml)	(33 ml)	(44 ml)	(88 ml)

1pint =16 fl oz.;1 fl oz. = 29.6 (30) ml

## **Aerial Application**

Use aerial boom equipment designed for use with herbicides and a minimum spray volume of 10 gallons per acre (5 gallons per acre if tank mixed with glyphosate). Do not aerially apply Oxbow 2E unless crop-specific use directions specifically allow and provide directions for aerial application.

**AVOID DRIFT:** Exercise extreme care to avoid herbicide contact with any desirable dormant or non-dormant crop, plant, tree or vegetation as severe injury may result. Extreme care must be exercised to prevent spray drift that could result in damage to other crops or desirable vegetation. Adhere to the following guidelines when aerial applications are to be made.

Spray Drift Management (Aerial Application): Avoiding spray drift at the application site is the responsibility of the applicator. The potential for spray drift is controlled by the interaction of many equipment-and-weather-related factors. The applicator and the grower 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 to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

- 1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wing span or rotor.
- 2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they should be observed.

The applicator must adhere to the following requirements when Oxbow 2E is aerially applied:

- 1. Do not apply when the wind direction is not stable, when inversion conditions exist, or when wind velocity exceeds 10 mph.
- 2. When wind speeds are 5 mph or less, maintain a minimum downwind buffer zone of at least 1/2 mile from all crops and desirable vegetation, except the following:
  - 150 feet from dormant tree fruit/nut/vine crops and overwintering sugar beets.
  - 650 feet from garlic, jojoba, legumes, onions, pastures, small grains, seedling sugar beets, and non-targeted vegetable fallow beds.
- 3. When wind speeds are between 5 and 10 mph, downwind buffer zones in excess of those listed above are suggested.
- 4. For upwind and side borders, maintain a minimum buffer zone of 150 feet from any non-targeted vegetable fallow bed, crop, or desirable vegetation.

The use of a drift control agent may be required by local regulations. However, the drift control agent may decrease the weed control effectiveness.

**Important:** Aerial applicators must be familiar with the label for Oxbow 2E and follow all applicable use precautions. Applying Oxbow 2E in a manner other than specified in this label is done at the user's risk. Users are responsible for all loss or damage resulting from aerial spraying. In addition, aerial applicators should follow all applicable state and local regulations and ordinances. In interpreting the label and local regulations, the most restrictive limitations apply.

#### CHEMIGATION

DO NOT apply this product through any irrigation system unless the instructions for chemigation are followed. If application by chemigation is not specifically listed under the specific crop use instructions, Oxbow 2E may not be applied to that crop through an irrigation system.

Apply this product only through sprinkler (center pivot, solid set, portable lateral, or low-volume (micro sprinkler)), drip (trickle), or flood (basin) irrigation systems. Refer to use directions for specific crops for instructions as to which type of irrigation system may be used. **DO NOT** apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts.

**DO NOT** connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

## SPRINKLER CHEMIGATION (FOLIAR SPRAY USES)

For sprinkler irrigation, sufficient water should be applied at the beginning of the irrigation period to ensure uniform wetting of the plant and/or soil surfaces. Meter Oxbow 2E at a continuous uniform rate during the middle 1/3 of the irrigation period to allow for uniform distribution to the vegetation and/or soil surface. Continue irrigation during the final 1/3 of the irrigation period to ensure proper flushing of the irrigation system. During sprinkler irrigation, sufficient water should be applied to ensure water penetration to a depth of two inches.

**AVOID DRIFT:** Extreme care must be exercised to prevent spray drift that could result in damage to other crops or desirable vegetation. Use the following guidelines when applications of Oxbow 2E are made through sprinkler irrigation:

- 1. Do not apply when the wind direction is not stable, when inversion conditions exist, or when wind velocity exceeds 10 mph.
- 2. When wind speeds are 5 mph or less, maintain a minimum downwind buffer zone of at least 1/2 mile from all crops and desirable vegetation, except for the following:

  Maintain a minimum downwind buffer zone of:
  - 150 feet from dormant tree fruit, dormant vines and overwintering sugar beets.
  - 650 feet from garlic, jojoba, legumes, onions, pastures, small grains, seedling sugar beets and vegetable fallow beds.

- 3. When wind speeds are between 5 and 10 mph, downwind buffer zones in excess of those listed above are suggested.
- 4. For upwind and side borders, maintain a minimum buffer zone of 150 feet from any vegetable fallow bed, crop, or desired vegetation.

To apply a pesticide using sprinkler chemigation, the chemigation system must meet the following specifications:

- The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoidoperated valve located on the intake side of the injection pump and connected to the
  system interlock to prevent fluid from being withdrawn from the supply tank when the
  irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- DO NOT apply when wind speed favors drift beyond the area intended for treatment.

## FLOOD (BASIN) CHEMIGATION (SOIL DRENCH USES)

Oxbow 2E should be continuously metered into the water during the entire irrigation period. Agitation in the pesticide supply tank is suggested. Best weed control results from Oxbow 2E applied through flood (basin) irrigation systems are obtained when a uniform distribution and flow of irrigation water is maintained over level land.

Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops. Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:

- The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain functional automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoidoperated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

## DRIP (TRICKLE) CHEMIGATION (SOIL DRENCH USES)

Meter Oxbow 2E at a continuous uniform rate during the middle 1/3 of the irrigation period to allow for uniform distribution to the soil surface. For best results, Oxbow 2E should be uniformly positioned across the wetted area to help reduce the "ring effect" of weed escapes, as other products begin to break down around the emitter. Continue irrigation during the final 1/3 of the irrigation period to ensure proper flushing of the irrigation system.

To apply a pesticide using drip (trickle) chemigation, the chemigation system must meet the following specifications:

- The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoidoperated valve located on the intake side of the injection pipe and connected to the
  system interlock to prevent fluid from being withdrawn from the supply tank when the
  irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the
  pesticide injection pump when the water pump motor stops. The irrigation line or water
  pump must include a functional pressure switch, which will stop the water pump motor
  when the water pressure decreases to the point where pesticide distribution is adversely
  affected.
- Systems must use a metering pump such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

## CHEMIGATION CALIBRATION: FOR LOW-VOLUME SPRINKLERS (MICROSPRINKLERS) AND DRIP (TRICKLE) IRRIGATION SYSTEMS

Calculation of use rate is based on wetted area around emitters - NOT on grove acres. To determine correct amount of Oxbow 2E, use the following formula:

Treated area per each emitter = A

 $A = 3.14 \times (radius \times radius)$ 

Example: If the average distance from emitter to perimeter of wetted area measured at the

soil surface is 13 inches, then A = 3.14 x (13" x 13") A = 3.14 x (169") A = 530.7 square inches

2. The area in square feet wet in each acre = B  $B = \underbrace{A \times emitters/acre}_{144}$ 

Example: If there are 300 emitters per acre, then

 $B = 530.7 \times 300 = B = 1105.6$  square feet wetted per acre

3. The total area (in square feet) wet by your system = C

C = B x acres covered by system

Example: If the system covers 20 acres, then

C = 1105.6 square feet per acre x 20 acres

C = 22,112 square feet wetted by system

**4.** Amount of Oxbow 2E to inject = S Rate per treated acre of Oxbow 2E = R

> $S = C \times R =$ quarts of Oxbow 2E 43.560

Example: If the desired application rate per treated acre is 1 quart of Oxbow 2E, then

 $S = 22,112 \times 1.0 = S = 0.507$  quarts of Oxbow 2E should be injected into system. 43,560

**Note:** Select the proper rate based on weed spectrum and desired length of control. (See **RATE RANGES** section below).

## CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS

If the chemigation system is connected to a public water supply, the following conditions must also be met:

- Public water systems means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- Chemigation systems connected to public water systems must contain a functional reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from a point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank

prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

- The pesticide injection pipeline must contain a functional, normally closed, solenoidoperated valve located on the intake side of the injection pump and connected to the
  system interlock to prevent fluid from being withdrawn from the supply tank when the
  irrigation system is either automatically or manually shutdown.
- The system must contain functional interlocking controls to automatically shut off the
  pesticide injection pump when the water pump motor stops, or in cases where there is no
  water pump, when the water pressure decreases to the point where pesticide distribution
  is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

## **CULTURAL CONSIDERATIONS**

In order for Oxbow 2E to provide maximum preemergence activity:

Prior to application, the bed or soil surface should be smooth and free of crop and weed trash (decaying leaves, clippings, dead weeds, etc.). Leaves and trash may be removed by blowing the area to be treated or by thoroughly mixing the trash into the soil through cultivation prior to herbicide application.

After application, at least one-quarter inch (1/4 inch) of irrigation or rainfall should occur within 3 or 4 weeks after application. The best results from Oxbow 2E are from applications to established beds or soil surfaces that are left undisturbed during the time period for which weed control is desired. Cultural practices that result in redistribution or disturbance of the soil surface after treatment will decrease the herbicidal effectiveness of Oxbow 2E. Cutting water furrows or cultivations that mix untreated soil into treated areas will also reduce the effectiveness of the treatment.

#### RATE RANGES

Select proper application rates based on soil conditions, weed spectrum and desired period of residual weed control.

**Preemergence Application:** Where rate ranges are given, use the lower rate in the rate range on coarse texture soils with less than 1% organic matter. Use higher rates in the rate range on medium to fine texture soils, soils containing greater than 1% organic matter, or where a longer period of residual weed control is desired.

Postemergence Application: Where a rate range is given, use higher rate in rate range for heavy weed infestations, weeds in advanced stages of growth or where a longer period of residual weed control is desired.

## MIXING DIRECTIONS

**Shake well before use.** Fill the spray tank at least one-third full of clean water. With the pump and agitator running, add the specified amount of herbicides to the spray tank. The order of addition to the spray tank should be (1) wettable powders, (2) flowables, and (3) soluble liquids. Complete filling of the spray tank with water.

Use of Surfactants: For all applications of Oxbow 2E (except garlic and onions) where postemergence weed control is desired, add 2 to 4 pints of Latron AG-98 nonionic surfactant (or comparable 80% active nonionic surfactant cleared for application to growing crops) per each 100 gallons of spray. The addition of 4 pints of Latron AG-98 per 100 gallons of spray is recommended to enhance postemergence activity when hard water (greater than 600 ppm) is used as carrier. Maintain agitation until spraying is completed.

## **Tank Mixing Precautions:**

- Read and carefully follow all applicable use directions, precautions, and limitations on the respective product labels. In interpreting the labels of tank mixed products, the most restrictive label limitations must apply.
- Do not exceed specified application rates. Do not tank mix this product with another pesticide that contains the same active ingredient as this product unless the label of either tank mix partner specifies the maximum dosages that may be used.

Tank Mix Compatibility Testing: Conduct a jar test prior to tank mixing to ensure compatibility of this product and other pesticides. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls up, forms flakes, sludges, jells, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

**Sprayer Clean-up:** Thoroughly flush spray equipment (tank, pump, hoses and boom) with clean water before and after each use. Residues of Oxbow 2E remaining in spray equipment may damage other crops. The addition of a non-ionic surfactant to equipment flushing waters at the rate of 1 quart per 100 gallons is recommended to aid in removal of residues of Oxbow 2E.

#### **CROP-SPECIFIC USE DIRECTIONS**

### ARTICHOKE (GLOBE)

Post-Directed Spray Application

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence Postemergence	4-6 pts/A	Application Method: Apply as a directed spray to the soil surface between the rows and at the base of artichoke plants in a minimum spray volume of 40 gallons per acre.  Timing to Crop: Apply after completion of ditching operations. Separate applications of up to 4 pts/acre may be made 8 to 10 weeks apart or a single application up to 6 pts/acre may be made.  Timing to Weeds: Preemergence up to 8 leaf stage.

Do not apply over-the-top. Contact with direct spray or drift will cause injury to artichoke fronds or severe injury to

buds or flowers.

Application of Oxbow 2E to artichoke plantings should be delayed a minimum of 60 days after cutting back or transplanting.

#### Restrictions:

Do not apply more than 6 pints of Oxbow 2E per acre per season as a result of a single application or multiple applications.

Preharvest Interval: Do not apply within 5 days of harvest.

## Key Weeds Controlled:

Preemergence
cheeseweed (malva)
groundsel, common
lambsquarters, common
mustard, common yellow
oxalis (bermuda buttercup)\*
shepherdspurse
sowthistle, annual

\*Suppression

## Postemergence

cheeseweed (malva)
groundsel, common
mustard, common yellow
nettle, burning
oxalis (bermuda buttercup)
shepherdspurse
sowthistle, annual

## BROCCOLI/CABBAGE/CAULIFLOWER

## Pre-transplant (Preplant) Application for Preemergence Broadleaf Weed Control

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence	1-2 pts/A	Pre-Transplant Application Only: Apply broadcast to final seedbed prior to transplanting. Use lower rate in the rate range on coarse textured soils with less than 1% organic matter. Use the highest rate range on medium to fine textured soils or soils containing greater than 1% organic matter.  Transplanting should be accomplished with minimal soil disturbance and soil left undisturbed during the time weed control is desired.

#### Precautions:

Pre-transplant applications may result in initial, but temporary, crop injury (leaf cupping or crinkling) and is enhanced if crop leaves come in direct contact with treated soil. Crop will rapidly outgrow this condition and develop normally. Severe crop injury may result if transplants are under stress due to temperature, disease, fertilizer, nematodes, insects, pesticides or storage conditions. The use of transplants less than 5 weeks old or use of extremely succulent transplants grown in containers less than 1 inch square may increase the severity of crop injury. Hardening off, increasing the age of transplants or increasing the size of the rooting containers will lessen the possibility and/or severity of potential crop injury.

Oxbow 2E will assist in early season annual grass control; however, a herbicide program for preemergence or postemergence control of annual grasses is recommended.

Note: Do not apply Oxbow 2E if an acetanilide herbicide such as Dual Magnum herbicide, Lasso herbicide, or Ramrod herbicide has been applied to the field during the current growing season as severe crop injury may occur. Do not apply Oxbow 2E as a preemergence treatment to direct-seeded broccoli, cabbage or cauliflower.

Do not apply Oxbow 2E post-transplant or over-the-top of broccoli, cabbage or cauliflower.

Applications to muck soils may result in partial weed control or suppression.

Furrow and drip irrigation immediately after transplanting and under high temperatures can result in increased crop injury. Sprinkler irrigation is recommended during early establishment of transplants. If these conditions cannot be met. Oxbow 2E should not be used.

## **Crop-Specific Restrictions:**

Do not apply more than 2 pints of Oxbow 2E per treated acre per season.

## **Key Weeds Controlled:**

Preemergence carpetweed

pigweed, redroot purslane, common smartweed, Pennsylvania

## CACAO (BEARING AND NONBEARING)

(For Use Only in Hawaii)

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence Postemergence	2 – 8 pts/A	Pre-Transplant Application: Up to 4 pints per broadcast acre may be applied as a pre-transplant application.  Application to Established Plantings: In established plantings, including recently transplanted cacao plants, apply as a directed spray to the orchard floor. Use higher rates in rate range and increase spray volume to control dense growth of existing weeds or for extended residual preemergence weed control.

#### Precautions:

- · Do not apply preplant or preemergence to direct-seeded cacao.
- Oxbow 2E should be applied to only healthy growing trees/transplants of suitable size to allow directed sprays.
   Avoid spray contact with foliage.

#### Crop-Specific Restrictions:

Do not apply more than 8 pints of Oxbow 2E per acre as a single application or more than 24 pints per acre per vear.

Preharvest Interval: Do not apply Oxbow 2E within 1 day of harvest.

**Key Weeds Controlled:** 

Preemergence ageratum buttonweed Postemergence purslane, common spurge, garden crotalaria purslane, common spurge, garden

## CITRUS (NONBEARING)

Citrus, such as Calamondin, Chironja, Citrus Citron, Grapefruit, Kumquat, Lemon, Lime, Mandarin, Pummelo, Satsuma Mandarin, Sour Orange, Sweet Orange, Tangelo, Tangerine, Tangor

Oxbow 2E may be applied only in non-bearing citrus orchards. Apply only as a directed spray to the orchard floor, avoiding contact with citrus foliage.

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence	6 pts/A	Preemergence Weed Control: Up to 6 pts/acre may be applied for residual pre-emergence weed control.
Postemergence	2 – 6 pts/A	Postemergence Weed Control: The 6 pint/acre rate will control weeds up to 4 inches tall. Weeds greater than 4-leaf or 4inches tall may be partially controlled.  Use sufficient spray volume for complete and uniform coverage of weeds. Increase the spray volume with increased weed height and density to ensure complete coverage.

Tank Mixing: Refer to Mixing Directions section for Tank Mixing Precautions.

Preemergence Use: For residual control of grass weeds, Oxbow 2E may be tank mixed with grass herbicides labeled for use in citrus.

**Postemergence Use:** For broader spectrum postemergence control of emerged grass and broadleaf weeds, Oxbow 2E may be tank mixed with paraquat or glyphosate.

#### Precautions:

Do not apply during periods of new citrus foliage growth. Applications should be made after foliage has fully expanded and hardened off. Avoid direct spray contact with citrus foliage.

#### Crop-Specific Restrictions:

Apply Oxbow 2E only to nonbearing citrus (trees that will not bear fruit for one year).

Do not apply more than 6 pints of Oxbow 2E per acre per year as a result of single or multiple applications.

## **Key Weeds Controlled:**

(Arizona and California)

#### Preemergence

burclover

cheeseweed(malva)

fiddleneck, coast

filaree, broadleaf

filaree, redstem

filaree, whitestem

groundsel, common

#### Postemergence

cheeseweed (malva)

fiddleneck, coast

filaree, broadleaf\*

filaree, redstem\*

filaree, whitestem\*

groundsel, common

henbit

henbit knotweed, prostrate lambsquarters, common lettuce, prickly pigweed, redroot purslane, common redmaids rocket, London shepherdspurse sowthistle, annual spurge, prostrate spurge, spotted minerslettuce nettle,burning pigweed, redroot redmaids sheperdspurse sowthistle, annual

Postemergence

Key Weeds Controlled: (Florida, Louisiana and Texas) Preemergence

Cudweed, narrowleaf
Evening primrose, cutleaf\*\*
Groundcherry, cutleaf
Lambsquarters, common
Nightshade, American black
Nightshade, black
Pepperwood, Virginia
Pigweed, redroot
Poinsettia, wild
Pusley, Florida
Sida, prickly (teaweed)
Smartweed, Pennsylvania
Sowthistle, annual
Spurge, prostrate
Spurge, spotted

balsamapple
cudweed, narrowleaf\*\*\*
Evening primrose, cutleaf\*\*
groundcherry, cutleaf
groundcherry, Wright
lambsquarters, common
morningglory, annual
nightshade, American black
nightshade, black
pepperweed, Virginia
pigweed, redroot
poinsettia, wild
purslane, common
pusley, Florida

sida, prickly (teaweed) smartweed, Pennsylvania

sowthistle, annual

\*Oxbow 2E at the 6 pt/acre rate will provide control of filaree and other weeds up to the 4-inch stage. Applications to weeds beyond the 4-inch stage may result in partial control.

\*\*Highest rate and/or multiple applications may be required for acceptable control.

\*\*\*Maximum 0.5-inch diameter.

## **CLARY SAGE**

Clary Sage (Salvia sclarea) Grown and Utilized in the Essence Industry

(For Use Only in North Carolina)

Weed Control	Rate Oxbow 2E	Specific Use Directions
Postemergence	0.5 – 1	Oxbow 2E may be applied to established clary sage for control of henbit (Lamium amplexicaule) and other winter annual broadleaf weeds during

	pt/A	the winter and spring season. Apply shortly after the first flush of henbit is in the 2-to 4-leaf stage of growth. Additional applications may be required to control subsequent weed flushes through the spring season. After treatment, henbit will stop growing and slowly die. Increase the spray volume if weed growth is dense.
Precautions: Clary sage may respond to the rapid.	topical a	pplication of this product with some marginal leaf burn, but recovery is

## **Crop-Specific Restrictions:**

Do not apply more than 6 pints per acre per year.

## COFFEE (BEARING AND NONBEARING) (For Use Only in Hawaii)

Oxbow 2E may be applied to established coffee, recently transplanted coffee, or as a pretransplant treatment. In established non-dormant coffee, apply as a directed spray avoiding contact with crop foliage. Newly established transplants should be healthy and well established and of sufficient size to allow use of directed sprays without contacting crop foliage.

Oxbow 2E may be applied over-the-top of dormant coffee transplants. Transplants are considered to be dormant when active terminal growth has ceased and terminal buds have formed. Application over-the-top of coffee plants after buds start to swell (a sign that new growth has resumed) may result in crop injury and is not recommended.

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence	2-8	Preemergence Weed Control:
Postemergence	pts/A	Apply as a directed spray to the orchard floor beneath established coffee plants.
		Up to 4 pints per acre may be applied as a pre-treatment application prior to transplanting coffee plants.
		Postemergence Weed Control: Increase the spray volume when weed growth is dense or trash is present; or use a higher rate within the rate range for extended residual preemergence weed control.

**Tank Mixing:** Refer to Mixing Directions section for Tank Mixing Precautions: Apply tank mixes only as directed sprays.

#### Precaution:

To prevent foliar injury, do not apply during periods of rapid new growth or allow spray or drift to contact actively growing foliage.

#### **Crop-Specific Restrictions:**

Do not apply preplant or preemergence to direct-seeded coffee.

Do not apply more than 8 pints per broadcast acre of Oxbow 2E in a single application or 24 pints per broadcast

acre per year.

Preharvest Interval: Do not apply Oxbow 2E within one (1) day of harvest.

## **Key Weeds Controlled:**

Preemergence
ageratum
buttonweed
crotalaria
purslane, common
spurge, garden

Postemergence purslane, common spurge, garden

# CONIFER SEEDBEDS, TRANSPLANTS, CONTAINER STOCK AND SELECTED FIELD GROWN DECIDUOUS TREES Use Precautions and Restrictions:

- Not for conifer release in forest management programs or for forest regeneration applications.
- Do not apply Oxbow 2E in an enclosed greenhouse structure as injury to plant foliage may result.
- Do not store or transport treated container stock in an enclosed structure until completion of 4 irrigations (minimum 21 days) as injury to non-labeled plants may occur.
- Apply Oxbow 2E only to healthy conifer stock. Do not apply Oxbow 2E to conifers that are
  under stress from excessive fertilizer or soil salts, disease, nematodes, frost, drought, flooding,
  previously applied pesticides, soil insects, or winter injury, as severe injury may result.
- Do not graze or harvest livestock forage from treated areas.

**Key Weeds Controlled:** When Oxbow 2E is applied preemergence or postemergence at specified dosages and weed stages.

barnyardgrass\*
bedstraw, catchweed
bittercress, lesser
bluegrass, annual\*
buckwheat, wild
burclover
carpetweed
clover, red\*

clover, white\*
cocklebur, common
crabgrass, large\*
fiddleneck, coast\*
filaree, broadleaf
filaree, redstem

fireweed (from seed)

flixweed

mustard, blue mustard, tumble mustard, wild nettle, burning nightshade, black nightshade, hairy

oats, wild orach, red

pepperweed, yellowflower

pigweed, prostrate pigweed, redroot pimpernel, scarlet purslane, common

redmaids rocket, London sandspurry, red foxtail, giant\* goosegrass\*

groundcherry, cutleaf groundcherry,Wright groundsel, common

henbit jimsonweed

knotweed, prostrate

ladysthumb lambsquarters, common

lettuce, prickly mallow, little

mayweed minerslettuce

morningglory, ivyleaf\* morningglory, tall\*

shepherdspurse\*

sida, prickly

smartweed, Pennsylvania sorrel,red (from seed) sowthistle, annual speedwell, birdseye spurge, prostrate\*\* spurge, spotted\*\*

spurry, corn tansymustard thistle, bull\*\* thistle, Russian

velvetleaf witchgrass

woodsorrel, yellow\*\*

### **CONIFER SEEDBEDS**

## Agricultural Use Requirements

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 3 days.

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

Oxbow 2E provides both postemergence and residual preemergence control of many broadleaf weeds and annual grass species. Seeded conifers are tolerant to preemergence and postemergence applications of Oxbow 2E. For weed control during the establishment of conifer seedlings, Oxbow 2E can be applied after seeding of conifers, but prior to emergence. For weed control in emerged conifers, Oxbow 2E may be applied over-the-top, but application should be delayed a minimum of 5 weeks after seedling emergence. If application is made during cool, cloudy weather, make certain that seedlings have hardened-off prior to spraying.

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence	1-4	Application after planting, but prior to emergence of conifer seedlings: Where grass weeds are present, apply 2 to 4 pints of Oxbow 2E per

<sup>\*</sup>Highest rate and/or multiple applications may be required for acceptable control.

<sup>\*\*</sup>Preemergence control only.

	pts/A	acre. In known areas of high weed competition, apply 4 pints of Oxbow 2E per acre. Broadcast to beds and irrigate with 1/2 to 3/4 inch of sprinkler irrigation before weed emergence. Oxbow 2E is most effective on annual grasses when applied preemergence.
Postemergence	1-2 pts/A	Application after emergence of conifer seedlings: Application should be made to seedling weeds less than 4 inches in height (seedling grasses not exceeding the 2-leaf stage). Depending on subsequent weed flushes, multiple applications may be necessary to achieve season-long weed control.

Chemigation: Oxbow 2E may be applied at labeled rates through sprinkler irrigation systems. For center pivot irrigation systems, apply the specified dosage of Oxbow 2E per acre metered at a continuous uniform rate during the entire irrigation period, otherwise meter Oxbow 2E at a continuous uniform rate during the middle 1/3 of the irrigation period. When applying by sprinkler irrigation, follow directions given in the Chemigation Instructions section of this label.

#### Precautions:

• Occasionally spotting, crinkling, or flecking may appear on leaves of conifers. Leaves that receive direct spray or drift may be injured, but typically outgrow this condition rapidly and develop normally.

## **Crop-Specific Restrictions:**

· Do not apply more than 8 pints of Oxbow 2E per acre per year.

## Oxbow 2E may be applied to conifer seedbeds of the following species:

Important: When applied as directed, the conifer species listed on this label have shown tolerance to Oxbow 2E. It is impossible, however, to evaluate this product on all varieties, biotypes and cultivars of listed species under all possible growing conditions. Until familiar with results under local growing conditions, the user should exercise reasonable judgment and caution with this product. Limit application of this product to a few plants in a small area to determine plant tolerance and extent of injury if such occurs, prior to initiating large-scale applications.

Douglas Fir	Pseudotsuga menziesii
Fir	Fraser (Abies fraseri)
	Grand (Abies grandis)
	Noble (Abies procera)
Hemlock	Easterm hemlock (Tsuga canadensis)
Pine	Austrian (Pinus nigra)
	Eastern White (Pinus strobes)
	Himalayan (Pinus wallichiana)
	Jack (Pinus banksiana)
	Loblolly (Pinus taeda)
	Lodgepole (Pinus contorta)
	Longleaf (Pinus palustris)
	Monterey (Pinus radiate)
	Mugho (Pinus mugo)
	Ponderosa (Pinus ponderosa)
	Scotch (Pinus sylvestris)
	Shortleaf (Pinus echinata)
	Slash (Pinus elliottii)

	Virginia (Pinus virginiana)	
Spruce	Blue (Picea pungens)	
	Dwarf (Picea glauca Conica)	
	Alberta (Picea abies)	
	Norway (Picea sitchensis)	

## CONIFER TRANSPLANTS AND CONTAINER STOCK (INCLUDES 2-0 SEEDLING AND CHRISTMAS TREE PLANTINGS)

## Agricultural Use Requirements

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 6 days.

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

Many container-grown conifers and conifer transplants are tolerant to preemergence and postemergence applications of Oxbow 2E. Applied postemergence, Oxbow 2E provides postemergence control of emerged weeds and preemergence residual control of many broadleaf weeds and grasses (See Key Weeds Controlled) at the beginning of this section.

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence Postemergence	4 – 8 pts/A	Transplanted and Container Grown Conifers: For best results, preemergence applications should be made immediately after transplanting seedlings or to weed-free container stock. Postemergence applications should be made to weeds less than 4 inches in height. Two applications maybe necessary, in fall-transplanted conifer fields, for season-long weed control. The addition of a non-ionic surfactant (0.25%v/v) labeled for application to growing crops, enhances the activity of Oxbow 2E on emerged weeds.

• Do not make over-the-top applications during periods of active conifer growth. Apply only before bud break or

after new terminal growth has hardened off.

### **Crop-Specific Restrictions:**

• Do not apply more than 8 pints of Oxbow 2E per acre in a single application or more than 16 pints per acre per year.

In addition to those conifer species listed under the Conifer Seedbed section, the following conifer species have been shown to be tolerant to Oxbow 2E:

Arborvitae	Thuja occidentalis	
	Thuja orientalis	
Juniper	Juniperus chinensis	
	Juniperus horizontalis	
	Juniperus procumbens	
	Juniperus sabina	
	Juniperus scopulorum	
Red cedar	Juniperus virginiana	
Western Hemlock	Tsuga heterophylla	
Yew	Taxus species	

#### SELECTED FIELD-GROWN DECIDUOUS TREES

Listed field-grown deciduous trees are tolerant only to directed spray applications of Oxbow 2E. Oxbow 2E provides both preemergence and postemergence control of listed broadleaf weeds and grasses.

**Timing to Crop:** Apply Oxbow 2E to established deciduous trees or after transplanting. For optimum weed control, applications should be made prior to weed germination. Apply only as a directed spray to soil beneath the trees.

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence Early Postemergence	2-6 pts/A	Oxbow 2E may be applied to established deciduous trees or after transplanting as a single or split application. Apply as a directed spray to the soil surface. Use spray shields to reduce exposure of foliage and bark. The addition of a non-ionic surfactant (0.25% v/v) labeled for application to growing crops, will enhance herbicidal activity on emerged weeds.  Spot Application: Spot treatments at specified rates may be used to control localized weed infestations. See use directions for Spot Application in the Application Methods and Cultural Practices section.

**Tank Mixing:** For broader spectrum control, Oxbow 2E may be tank mixed with other preemergence or postemergence herbicides registered for this use in deciduous trees. Refer to the Mixing Directions section for Tank Mixing Precautions.

#### Precautions:

• For maximum crop safety, directed applications should be prior to budbreak in the spring or after trees have initiated dormancy in the fall. Avoid contact of spray or drift with foliage or stems with green bark. Application after

bud swell may result in crop injury and is not recommended. If a non-dormant application is required due to weed competition, apply only after foliage has fully expanded and hardened off. Use only directed sprays and spray shields to prevent spray contact with stems with green bark or foliage.

• Do not apply Oxbow 2E to trees that have been weakened or are under stress from excessive fertilizer or soil salts, disease, nematodes, frost, wind injury, drought, flooding, previously applied pesticides, insects, or winter injury as severe injury may result.

## **Crop-Specific Restrictions:**

- Do not apply more than 6 pints of Oxbow 2E per acre per year.
- Do not apply to bearing tree fruit, nut or vine crops. For selected bearing tree fruit, nut and vine crops, refer to Tree fruit/Nut/Vine section of this label for use directions.
- Do not graze or feed livestock forage cut from areas treated with Oxbow 2E.

Oxbow 2E may be applied to the following deciduous tree species

Almond**	Prunus spp.	
Apple**	Malus X domestica	
Apricot**	Prunus spp.	
Ash, Green	Fraxinus pennsylvanica	
Ash, White	Fraxinus americana	
Birch, River	Betula nigra	
Cherry**	Prunus spp.	
Chestnut**	Castanea spp.	
Crabapple**	Malus spp.	LANGE OF
Cottonwood	Populus spp.	the Lat.
Dogwood	Cornus florida	
Eucalyptus	Eucalyptus viminalis	
	Eucalyptus pulverulenta	
	Eucalyptus camaldulensis	
Filbert**	Corylus spp.	
Lilac	Syringa vulgaris	A Shirtson Th
Locust, Black	Robinia pseudoacacia	
Maple, Black*	Acer nigrum	E. 10 = 7
Maple, Red*	Acer rubrum	
Maple, Sugar*	Acer saccharum	
Myrtle, Crepe	Lagerstoemia indica	
Nectarine**	Prunus spp.	
Nut, Hickory**	Carya spp.	THE PLAN
Nut, Macadamia	Macadamia ternifola	
Oak, Chestnut	Quercus prinus	
Oak, Cherrybark	Quercus pagoda	341 (25)
Oak, Nutt All	Quercus nuttallii	<b>公司</b> 管理制。 穿
Oak, Pin	Quercus palustris	E distribution
Oak, Red	Quercus rubra	E TOP C
Oak, Water	Quercus nigra	
Oak, Willow	Quercus phellos	
Olive, Russian	Elaeagnus angustifolia	
Poplar	Populus spp.	
Poplar, Tulip	Liriodendron tulipifera	
Peach**	Prunus persica	
Pear**	Pyrus spp.	
Pecan**	Carya spp.	4
Pistachio**	Pistacia vera	
Plum**	Prunus spp.	

Prune**	Prunus spp.	
Redbud	Cercis canadensis	
Sweetgum	Liquidambar styraciflua	
Sycamore	Platanus occidentalis	
Walnut, Black**	Juglans nigra	

<sup>\*</sup> Do not apply to maple trees used for production of maple sap or maple syrup.

### CORN

## FOR USE ONLY ON FIELD CORN IN CONJUNCTION WITH THE USDA WITCHWEED ERADICATION PROGRAM IN NORTH CAROLINA AND SOUTH CAROLINA

Apply Oxbow 2E only as a directed spray from May through August for preemergence and postemergence control of witchweed (*Striga asiatica*). Corn must be a minimum of 24 inches tall. Examine witchweed infested fields during the early part of the growing season to determine uniformity of corn stand and grass weed pressure. If necessary, cultivate weed-infested fields prior to initial application of Oxbow 2E to allow for optimum soil coverage during the initial application. Fields treated with Oxbow 2E should be inspected regularly for any breakthrough of witchweed. If breakthrough occurs, a second application should be made as soon as possible after appearance of witchweed. Repeat treatments should occur prior to bloom stage to prevent seed set.

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence	2 – 3 pts/A	Initial Application: Apply as a directed spray over the entire row surface at the rate of 2 pints per acre. Use up to 3 pints per acre in areas of heavy witchweed infestation. Use a minimum spray volume of 20 gallons per acre and a non-ionic surfactant at the rate of 2pints per 100 gallons of spray.
Postemergence	1 – 2 pts/A	Repeat Applications: In case of witchweed breakthrough a repeat application may be made at 1 to 2 pints per acre.

#### Precautions:

Do not spray over the top of the corn, as this may result in severe corn injury. Spray should contact only the lower 3 to 8 inches of the corn stalk and any leaves in this zone. Spray droplets contacting the lower leaves will cause necrotic spotting or streaking of sprayed tissue.

#### **Crop-Specific Restrictions:**

- Do not apply more than 5 pints (1.25 lb active) of Oxbow 2E per acre during the growing season.
- Do not apply within 60 days of harvest.
- Do not use corn plants from a treated field for green chop, ensilage, forage, or fodder.

<sup>\*\*</sup>Apply only to nonbearing trees. For bearing tree fruit, nut and vine crops, refer to specific use directions in the Tree fruit/Nut/Vine section of this label.

#### COTTON

**Application Methods and Equipment:** Oxbow 2E may be applied as a post-direct spray to cotton a minimum of 6 to 8 inches tall. Care must be exercised to avoid spray contact with the cotton leaves. Use rigid precision ground spray equipment and spray shields to prevent spray contact with cotton foliage. Use branch lifters or shields, as necessary, to avoid contact of directed sprays with cotton plant.

Accurate placement of spray nozzles is essential for uniform coverage of weeds and to minimize injury to cotton plants. Use a minimum broadcast spray volume of 20 gallons per acre and operate the sprayer at the minimum spray pressure specified by the spray nozzle manufacturer. Oxbow 2E may be applied as a post-direct spray with only 2 flat fan nozzles per row (1 nozzle on each side of the row). For optimum coverage, use 4 flat fan nozzles per row (2 nozzles on each side of the row). The 2 forward nozzles should point forward and downward while the rear nozzles should point to the rear and downward. With either spraying setup, nozzles should be carefully adjusted to cover the weed foliage with minimum contact to cotton plants. Oxbow 2E may also be applied as a band application.

Do not use hollow cone nozzles.

**Tank Mixing:** For control of additional broadleaf and grass weeds, Oxbow 2E may be applied as a postemergence directed spray in tank mix combination with other herbicides registered for postemergence use in cotton (see Tank Mixing Precautions under Mixing Directions).

Weed Control	Rate Oxbow 2E	Specific Use Directions
Postemergence	1-2 pts/A	Apply as a post-directed spray. For optimum control, use the 2 pint per acre rate on actively growing weed seedlings with no more than 4 true leaves (not counting cotyledon leaves).  Effective control of succulent weeds at the 2-to 3-leaf stage can usually be obtained at the 1 pint per acre rate. See Mixing Directions for surfactant recommendations.  Where available, irrigation maybe applied prior to application of Oxbow 2E to encourage maximum weed emergence.  Irrigation following application will improve preemergence activity of Oxbow 2E against nightshade and groundcherry species.

#### Precautions:

- Do not apply to cotton less than 6 inches tall or severe crop injury will result.
- Exercise care to avoid spray contact with cotton leaves. Leaves accidentally sprayed will exhibit necrotic
  (dead) spots and may be dropped from the plant. Crop injury may be enhanced if application is made when
  excessive soil moisture is present or rainfall occurs immediately after application, however, cotton will
  outgrow this condition and develop normally.

## **Crop-Specific Restrictions:**

 Western Cotton (AZ and CA): Do not apply more than 2 pints (0.5 lb active) of Oxbow 2E per acre in a single application, or more than a total of 4 pints (1.0 lb active) of Oxbow 2E per broadcast acre per season as a result of multiple applications. Do not apply within 75 days of harvest.

Southern Cotton (All other states): Do not apply more than 2 pints (0.5 lb active) of Oxbow 2E per acre
per season as a result of a single application or multiple applications. Do not apply within 90 days of
harvest.

## **Key Weeds Controlled:**

**Postemergence** 

cocklebur, common nightshade, hairy croton, tropic pigweed, redroot groundcherry, cutleaf poinsettia, wild\* purslane, common jimsonweed sesbania, hemp lambsquarters, common sicklepod\*\*

morningglory, annual (up to 6 leaf) sida, prickly (teaweed)\* smartweed, Pennsylvania

nightshade, black velvetleaf

\*Multiple applications may be required for acceptable control.

\*\*Post-direct applications of Oxbow 2E will control or suppress seedlings not exceeding the one true leaf stage.

#### COTTONWOOD

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence Postemergence	4 – 6 pts/A	Oxbow 2E may be applied as a single or split application. Apply as a directed spray to soil at the base of cottonwood trees.  Use the higher rate in the rate range for extended preemergence weed control or for postemergence control of weeds up to the 6 leaf stage. The addition of a non-ionic surfactant at 2 pints per 100 gallons of spray will enhance the postemergence activity of Oxbow 2E on emerged weeds.

#### Precautions:

- · Apply Oxbow 2E immediately after transplant only to dormant healthy cottonwood stock.
- In established stands, do not allow sprays of Oxbow 2E to contact cottonwood foliage. In newly established cottonwood plantings, use spray shields, if necessary, to prevent exposure of green bark and foliage.

#### **Crop-Specific Restrictions:**

• Do not apply more than 6 pints per acre of Oxbow 2E in a single application or more than 18 pints per acre per vear.

## **Key Weeds Controlled:**

groundsel, common knotweed, prostrate lambsquarters, common mustard, hedge shepherdspurse smartweed, Pennsylvania

#### **EUCALYPTUS**

Apply Oxbow 2E for preemergence and postemergence control of listed broadleaf weeds in established eucalyptus plantings.

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence Postemergence	4-6 pts/A	Directed Spray: Oxbow 2E may be applied as a single or split application. Apply as a directed spray to soil at the base of eucalyptus trees. Use the higher rate in the range for extended preemergence weed control or for postemergence control of weeds up to the 6 leaf stage. The addition of a non-ionic surfactant at the rate of 2 pints per 100 gallons of spray will enhance the postemergence activity of Oxbow 2E on emerged weeds.  Over-the-Top Application: In new plantings, apply Oxbow 2E just before or immediately after transplanting eucalyptus seedlings that are in a dormant condition (i.e., leaves may be present, but terminal growth has hardened off and terminal buds have formed). In established plantings, Oxbow 2E may be applied as an over-the-top spray when plants are in a dormant condition.

#### Precautions:

- At transplant, apply Oxbow 2E only to healthy "dormant" eucalyptus stock. In established plantings, use spray shields, if needed, to prevent exposure of foliage and bark of small and/or actively growing plants.
- To avoid phytotoxicity, make over-the-top applications only to eucalyptus trees in a dormant condition. Do not make over-the-top applications after budbreak and resumption of active growth.

### **Crop-Specific Restrictions:**

 Do not apply more than 6 pints of Oxbow 2E per acre in a single application or more than 18 pints per acre per year.

## Key Weeds Controlled:

### Preemergence

burclover cheeseweed (malva) fiddleneck, coast filaree, broadleaf filaree, redstem filaree, whitestem groundsel, common henbit knotweed, prostrate lambsquarters, common lettuce, prickly pigweed, redroot purslane, common redmaids rocket, London shepherdspurse sowthistle, annual spurge, prostrate

### Postemergence

cheeseweed (malva) fiddleneck, coast filaree, broadleaf\* filaree, redstem\* filaree, whitestem\* groundsel, common henbit minerslettuce nettle, burning pigweed, redroot redmaids shepherdspurse sowthistle, annual

spurge, spotted

\*At the 6-pint rate, Oxbow 2E will provide control of filaree up to the 6-leaf stage.

## **USE ON FALLOW BEDS**

(Not for use prior to planting soybeans in California)

Used alone or in a tank mix combination with glyphosate, Oxbow 2E provides preemergence and/or postemergence control of winter annual broadleaf weeds on land to be planted to crops.

Prior to planting, treated fallow beds should be thoroughly tilled (incorporated) to a depth of at least 2.5 inches. Oxbow 2E is no longer herbicidally effective once the active layer in the soil surface is disrupted by soil incorporation.

**Aerial Application:** Oxbow 2E maybe aerially applied for weed control in fallow beds. Follow requirements for Aerial Application in the Application Instructions and Restrictions section of this label.

Minimum Treatment to Planting Intervals For Listed Crops:

Direct Seeded Crops	Minimum Treatment-to-Planting Interva		
	Oxbow 2E Up to 1 pint/acre (days)	Oxbow 2E >1 - 2 pints/acre (days)	
carrot	90	90	
cotton	7	7	
potato	60	60	
sugar beet	60	90	
other root/tuber crops	90	90	
onions	180	180	
other bulb vegetables	180	180	
cabbage	90	90	
cauliflower	90	90	
other brassica crops	120	120	
lettuce	90	120	
other leafy vegetables (except brassica crops)	120	120	
pepper	90	120	
tomato	60	120	
other fruiting vegetables	120	120	
cantaloupe	60	90	
squash	90	120	
watermelon	60	60	
other cucurbits	90	120	
dry beans	60	60	
peanut	60	60	
other legume vegetables	60	60	
safflower	60	60	
soybeans (except California)	7	7	
cereal grains, including barley, buckwheat, corn, proso millet, pearl millet, oats, popcorn, rice, rye, sorghum, triticale, wheat, and wild rice	300	300	
cotton and soybean	See specified labeling for fallow beds to be planted to cotton or soybeans.		
Transplanted Crops			

celery	30	30
conifer	0	0
garlic	0	30
grape and kiwi	0	0
onion	0	30
pepper	30	30
strawberries	30	30
tomato	30	30
tree fruits, nuts and citrus	0	0

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence Postemergence	1 - 2 pts/A	Use 20 or more gallons of spray volume per acre and increase spray volume for dense weed growth.  Use the 1 pint per acre rate for up to 4 weeks of preemergence control and postemergence control of susceptible weeds up to the 4-leaf stage. Use the 2 pint per acre rate for up to 8 weeks of preemergence control and postemergence control of susceptible weeds up to the 6-leaf stage. Best preemergence control is achieved when irrigation or rainfall occurs within 3 or 4 weeks after application.  A tank mix with glyphosate is recommended if the treatment area contains dense weed populations, oversized weed seedlings, volunteer grains, annual grasses or under unfavorable environmental conditions.  Outside of California: For enhanced contact activity  (burndown/suppression), tank mix 6.5 fl oz of Oxbow 2E with the labeled rate of either glyphosate or paraquat (Gramoxone). Apply at the application rate and weed growth stages listed in the respective tank mix product label.

#### Precautions:

- Failure to achieve thorough and complete incorporation, or to follow the specified treatment-planting interval, may result in stand reduction and/or vigor reduction of the planted crop.
- Crop injury may be enhanced if newly seeded crops or transplants are under stress due to drought, flooding, excessive fertilizer or soil salts, low soil temperatures, wind injury, hail, frost damage, injury from previously applied pesticides, or injury due to insects or diseases.
- Exercise extreme care to avoid herbicide contact with any desirable dormant or non-dormant crop, plant, tree or vegetation as severe injury may result.

#### **Crop-Specific Restrictions:**

Do not apply more than 2 pints of Oxbow 2E per acre per fallow season.

**Key Weeds Controlled:** Oxbow 2E provides preemergence and postemergence control of the following weeds on fallow beds:\*

buttercup, smallflower cheeseweed (malva) Evening primrose, cutleaf\*\* fiddleneck, coast filaree, broadleaf filaree, redstem geranium, Carolina mustard species nettle, burning oxalis pigweed, redroot purslane, common redmaids rocket, London groundcherry, cutleaf groundsel, common henbit ladysthumb minerslettuce shepherdspurse sida, prickly sowthistle, annual velvetleaf (wild cotton)

\*Thorough spray coverage is essential to maximize the postemergence activity of Oxbow 2E. For postemergence control when applied by air, a tank mixture of Oxbow 2E with either glyphosate or paraquat is recommended.

\*\*Requires maximum rate and/or multiple applications for effective control.

## **GARBANZO BEANS**

(For Use Only in Arizona and California)

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence	1 pt/A	Apply after planting but prior to weed or crop emergence as a single broadcast application using a spray volume of 20 or more gallons of water per acre.

#### Precautions:

Garbanzo beans are tolerant to preemergence application of Oxbow 2E; however, under certain conditions, severe but temporary crop injury may occur. A heavy splashing rain shortly after crop emergence or wet soil conditions during early growth stages can cause leaf cupping, crinkling, stunting or defoliation of the garbanzo seedlings. Injury, when it occurs, is usually limited to the first few leaves that develop after plants emerge from the soil. Delays in crop development and/or maturity may result, but Garbanzo beans do recover with little to no impact on yield.

#### **Crop-Specific Restrictions:**

- Do not apply more than 1 pint per acre of Oxbow 2E in a single application.
- · Do not use bean vines for livestock feed or hay.

## **Key Weeds Controlled:**

Preemergence

groundsel, common mallow, little rocket, London shepherdspurse

#### GARLIC

## Agricultural Use Requirements

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

**Cultural Considerations:** For optimum preemergence weed control, the soil surface should be smooth and free of excessive trash (clippings, plant residues, etc.). Following application, treated beds should be left undisturbed during the time period for which weed control is desired. Cultural practices that result in soil disturbance or redistribution or untreated soil can result in reduced weed control.

Direct Seeded Garlic (Postemergence Application)		
Weed Control	Rate Oxbow 2E	Specific Use Directions
Postemergence	2 – 4 fl. oz./A	Northeastern States Including Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont: Apply Oxbow 2E at 2 to 4 fl oz per acre to seeded garlic that has at least 3 true leaves using ground equipment. Multiple treatments at 2 to 4 fl oz per acre may be applied up to a maximum of 2 pints (32 fl oz) per acre per use season. For optimum postemergence control, apply when susceptible weeds are in the 2 to 4-leaf stage and actively growing. Application at later than 4-leaf growth stage may result in reduced weed control.
	0.5 – 1 pint/A	Western States Including Arizona, Colorado, Idaho, Nevada, New Mexico, Oregon, Texas, Utah and Washington: Apply Oxbow 2E at 0.5 to 1 pt per acre to seeded garlic that has at least 2 true leaves using ground equipment. Multiple treatments at 0.5 to 1 pt per acre may be applied up to a maximum of 2.0 pints per acre per use season. For optimum postemergence weed control, apply when susceptible weeds are in the 2 to 4-leaf stage and actively growing. Application at later than 4-leaf stage may result in reduced weed control.
	0.5 pint/A	All Other States: Apply Oxbow 2E at 0.5 pt per acre to seeded garlic that has at least 2 true leaves using ground equipment. Multiple treatments at 0.5 pt per acre may be applied up to a maximum of 2 pints per acre per use season. For optimum postemergence control, apply when susceptible weeds are in the 2 to 4-leaf stage and actively growing. Application at later than 4-leaf growth stage may result in reduced weed control.

Direct Seeded Garlic (California Only)		
Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence Postemergence	1 pt/A	Application after planting but Prior to Garlic Emergence: Apply Oxbow 2E after planting, but prior to crop emergence, for preemergence

control of listed broadleaf and grass weeds using ground, air or sprinkler irrigation (chemigation).  Aerial Application: Apply in a minimum spray volume of 10 gallons per acre. Follow Aerial Application instructions and precautions in the Application Instructions and Restrictions section of this label.  Postemergence and Directed Application: Apply Oxbow 2E as a directed over-the-top spray to garlic that is at least 12 inches tall.  Accurate, uniform placement of directed postemergence sprays is essential for effective weed control and to minimize injury to garlic. Use low-pressure sprays and a minimum spray volume of 20 gallons per acre. Adjust nozzles for minimum spray contact with garlic plants, directing the spray to the soil at the base of garlic plants and adjacent bed top and furrow area. For optimum postemergence control, apply when susceptible weeds are in the 2 to 4-leaf stage and actively growing. Application at later than 4-leaf growth stage may result in reduced weed control.
Sprinkler Irrigation (Portable Lateral or Solid Set): Preemergence or Postemergence: Apply Oxbow 2E at the specified broadcast application rate using sufficient irrigation to wet soil to a depth of 2 inches. Apply after planting but prior to garlic emergence or postemergence when garlic is at least 12 inches tall. Follow the application directions and precautions for "Sprinkler Chemigation" given in the Chemigation section of this label.

#### Precautions:

Garlic Response to Preemergence Applications of Oxbow 2E: Following a preemergence application of Oxbow 2E, a chlorotic band around some of the leaves maybe observed after the first irrigation (or rainfall) following garlic emergence.

Weed Control	Rate Oxbow 2E	Specific Use Directions
Postemergence	up to 2 pts/A	All States Except Northeastern States: Transplanted garlic is most tolerant of a postemergence application immediately after transplanting. An application of up to 2 pints per acre may be made within two days after transplanting. If less than 2 pints per acre is applied, a second application can be made two weeks or more after transplanting. Do not exceed the maximum use rate of 2 pints per acre of Oxbow 2E per season as a result of multiple applications.
	2 – 4 fl. oz./A	Northeastern States, including Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont: Multiple treatments at 2 to 4 fl oz per acre may be applied up to a maximum of 2 pints (32 fl oz) per acre per use season.

## **Key Weeds Controlled:**

canarygrass (annual) evening primrose, cutleaf groundsel, common mallow, little (malva) nightshade, black pigweed, prostrate\*

puncturevine purslane, common\* rocket, London sage, lanceleaf shepherdspurse\* sowthistle, annual

pigweed, redroot\*

\*Key weeds controlled at specified rates in Northeastern States.

## Garlic - Crop-Specific Precaution (Postemergence Application)

Postemergence applications of Oxbow 2E may cause chlorotic leaf banding, necrotic lesions, or stunting of the garlic plants. Symptoms may be more severe if garlic emerged under cool, wet, overcast or foggy weather. These conditions are temporary and should not affect the vigor or development of garlic plants.

## Garlic - Crop-Specific Restrictions (Applicable to All Methods of Application):

- In all states except Northeastern states, do not apply until direct seeded garlic plants have two (2) fully developed true leaves. In the Northeastern states, do not apply until direct seeded garlic plants have three (3) fully developed true leaves. Application made prior to the specified growth stage may result in serious crop injury and is not recommended.
- Do not apply more than a total of 2 pints per acre of Oxbow 2E per use season as a result of multiple applications.
- Do not apply within 60 days of harvest.
- In direct seeded garlic (except in California), do not apply Oxbow 2E as a preemergence treatment.
- · Use only on dry bulb garlic.
- Do not apply to garlic grown for seed.
- For weed control in garlic, do not mix Oxbow 2E with oils, surfactants, liquid fertilizers or pesticides except as specified on approved Oxbow 2E Supplemental Labeling.
- Do not apply to garlic plants that are under stress due to drought, flooding, excessive fertilizer or soil salts, storage conditions, wind injury, hail, frost damage, injury from previously applied pesticides, or injury due to insects, nematodes or diseases.

## GUAVA (Bearing and Non-bearing) (For Use Only in Hawaii)

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence	5 – 8 pts/A	Preemergence or Postemergence: In established guava plantings, apply pre-emergence or postemergence to weeds. Increase the spray volume to ensure adequate coverage in high densities of emerged weeds or heavy trash. Minimize contact with guava plants by directing the spray to the soil surface. Spray shields are suggested to minimize spray contact in young plantings.
Postemergence	2 – 8 pts/A	For broader spectrum postemergence control of grass and broadleaf weeds, Oxbow 2E may be applied in a tank mix combination with paraquat (Gramoxone) or glyphosate. Follow applicable use directions, precautions and limitations on the labels of the respective tank mix products.

Prevent direct spray or drift from contacting green stems, fruit or foliage, as injury may result.

- Alone or in tank mix combination, Oxbow 2E should be applied to only healthy growing trees.
- · Application of Oxbow 2E should be made only after new foliage growth has hardened off.

### **Crop-Specific Restrictions:**

- Do not apply more than 8 pints per acre of Oxbow 2E in a single application or more than 16 pints per season.
- Do not apply Oxbow 2E within 1 day of harvest.

## **Key Weeds Controlled:**

Preemergence
ageratum
buttonweed
crotalaria
purslane, common
spurge, garden

Postemergence purslane, common spurge, garden

#### HORSERADISH

## **Agricultural Use Requirements**

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

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence	2 pts/A	Apply Oxbow 2E after the horseradish roots have been planted but prior to emergence of new horseradish leaves. Emerged leaves that receive direct or indirect spray (drift) contact will be injured. If necessary, cultivate before application to destroy germinated weeds.

#### **Precautions:**

• Do not apply Oxbow 2E to horseradish plantings that have been weakened or stressed due to unfavorable temperature conditions, disease, fertilizer, nematodes, insects, pesticides, drought or excessive moisture.

#### **Crop-Specific Restrictions:**

Do not apply more than 2 pints of Oxbow 2E per acre per crop.

## **Key Weeds Controlled:**

lambsquarters, common pigweed, redroot

purslane, common

shepherdspurse

smartweed, Pennsylvania

#### **JOJOBA**

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence Postemergence	4 – 6 pts/A	Initial application may be made when jojoba plants have reached a height of 6 inches or more. Use sufficient spray volume to ensure thorough coverage of dense weed growth. Sprays should be directed to the base of jojoba plants to avoid possible phytotoxicity to foliage. Spray shields are suggested for use in young plantings. Use higher rate in rate range for extended residual preemergence weed control. Make follow-up applications as necessary to maintain weed control.  For early postemergence control of susceptible seedling weeds (less than 8 inches tall) apply Oxbow 2E at the rate of 4 pints per acre. Oxbow 2E may be applied at the rate of 6 pints per acre for postemergence control of weeds up to 12 inches tall. For optimum residual control, apply during the fall or winter months. Control may be unsatisfactory for weeds greater than 12 inches tall.

#### Precautions:

· Avoid direct spray or drift contact with jojoba flowers or buds as severe injury may result.

• Over-the-top applications may cause burning, crinkling or bronzing of jojoba foliage, particularly to the youngest leaves, flowers, or buds present at the time of application.

**Crop-Specific Restrictions:** 

· Do not apply more than 6 pints per acre per year.

## **Key Weeds Controlled:**

Preemergence

burclover fiddleneck, coast filaree, broadleaf filaree, redstem filaree, whitestem groundsel, common

henbit

knotweed, prostrate lambsquarters, common

lettuce, prickly

mallow, little (malva, cheeseweed)

pigweed, redroot purslane, common

redmaids rocket, London shepherdspurse Postemergence

fiddleneck, coast filaree, broadleaf\*\* filaree, redstem\*\* filaree, whitestem\*\* groundsel, common\*

henbit

mallow, little (malva, cheeseweed)

minerslettuce nettle, burning pigweed, redroot\*

redmaids

shepherdspurse sowthistle, annual

## sowthistle, annual

\*Highest rate may be required for acceptable postemergence control.

\*\* Oxbow 2E at the 6-pint rate will provide control of filaree not exceeding the 4-inch stage. Applications to filaree beyond the 4-inch stage may result in partial control.

## MINT (SPEARMINT AND PEPPERMINT)

	Mint (Spearmint and Peppermint) Grown on Mineral Soils		
Weed Control	Rate Oxbow 2E		
Preemergence Postemergence	4-6 pts/A	Oregon and Washington (East of Cascades), California, Montana, Idaho, Nevada, South Dakota and Utah: Apply from December through March when mint is dormant.  When used postemergence (to weeds), add an 80% active ingredient nonionic surfactant at the rate of one quart per 100 gallons of spray volume and apply before weeds exceed a height of 4 inches.  Late winter applications will provide maximum activity on summer weeds, but summer grass control may be inconsistent. For best results, fall-plowed fields should be harrowed to provide a smooth surface for application. In furrow-irrigated fields, corrugating must be done prior to application. Corrugating or harrowing will result in disturbance of treated soil or movement of untreated soil into treated areas, resulting in poor weed control.	
Preemergence	2 – 3 pts/A	(Western Oregon Willamette Valley): Apply Oxbow 2E from November through February to dormant peppermint only. Treatments in January or February generally provide better residual preemergence control of annual broadleaf weeds. Full season weed control should not be expected from this treatment.	

#### Precautions:

- · Application must be made prior to emergence of new spring growth or severe crop injury may result.
- In the Willamette valley, do not apply Oxbow 2E to mint that has been plowed.
- Apply Oxbow 2E only to healthy stands of spearmint and peppermint. Do not apply to spearmint or peppermint weakened by disease, drought, flooding, excessive fertilizer, soil salts, previously applied pesticides, nematodes, insects, or winter injury, as severe injury may result.

### **Crop-Specific Restrictions:**

· Do not make more than one application of Oxbow 2E per season.

## **Key Weeds Controlled:**

bedstraw, catchweed bluegrass, annual\* flixweed groundsel, common lambsquarters, common oats, wild\* orach, red pepperweed, yellowflower pigweed, redroot ryegrass, Italian\* lettuce, prickly (china lettuce) mustard, blue (purple mustard) mustard, tumble (Jim hill mustard) nightshade, hairy shepherdspurse sowthistle, annual tansymustard thistle, Russian

\*Control of annual grasses is best obtained when Oxbow 2E is applied prior to emergence. Postemergence control of winter annual grasses is generally unsatisfactory if applications are made after the1-to 2-leaf stage.

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence Postemergence	4 – 6 pts/A	Note: Use directions in this section apply only to spearmint and peppermint grown on muck soils (organic matter content of 20% or greater).  When used postemergence (to weeds), add an 80% active ingredient nonionic surfactant at the rate of one quart per 100 gallons of spray volume and apply before weeds exceed a height of 4 inches.
<ul> <li>To avoid excessive cro</li> <li>Apply Oxbow 2E only t</li> </ul>	op injury, do not a to healthy spearm	gence of new spring growth or severe crop injury may result. pply within 4 days of planting (sprigging) spearmint or peppermint. nint or peppermint. Do not apply to spearmint or peppermint that has been sects, or winter injury, as severe injury may result.

## **Key Weeds Controlled:**

knotweed, prostrate pigweed, redroot purslane, common

#### **NON-CROP USE**

(Non-Food-Producing, Non-Cultivated Agricultural or Non-Agricultural Areas, such as Highway and Utility Rights-of-Way, Industrial Sites, Tank Farms, Storage Areas, Airports, Fencerows, and Farmsteads)

Ra	te Specific Use Direction	S	
Oxb	ow		

Weed Control	2E	
Preemergence	5 – 8 pts/A	Preemergence: Use higher rate in rate range for longer residual control.
		Postemergence: Use the lower rate in the rate range for control of susceptible weeds in the early postemergence stage less than 4 inches tall. Use the higher rate for weeds up to 12 inches tall. Application to weeds beyond the 4-inch stage may result in partial control.
Postemergence	2-8 pts/A	Weeds beyond the 4 men stage may result in partial control.

**Tank Mixing:** Refer to Mixing Directions section for Tank Mixing Precautions. Follow applicable use directions, precautions, and limitations on the respective product labels. In interpreting the labels of tank mixed products, the most restrictive label limitations must apply.

• Preemergence: For broader-spectrum residual preemergence weed control, Oxbow 2E may be applied in tank mix combination with diuron (Karmex) or simazine.

• Postemergence: For additional postemergence control of susceptible grass and broadleaf weeds, Oxbow 2E may be applied in tank mix combination with paraguat (Gramoxone) or glyphosate.

#### Site-Specific Restrictions:

• Do not feed or allow animals to graze on any areas treated with Oxbow 2E.

· Do not apply more than 8 pints per acre in a single application.

## Key Weeds Controlled:

Preemergence

burclover cheeseweed (malva) fiddleneck, coast

filaree, broadleaf
filaree, redstem
groundsel, common
henbit
knotweed, prostrate
lambsquarters, common
lettuce, prickly
pigweed, redroot
purslane, common
redmaids
rocket, London
shepherdspurse

sowthistle, annual

Postemergence

cheeseweed (malva) fiddleneck, coast filaree, broadleaf filaree redstem groundsel, common henbit minerslettuce nettle, burning pigweed, redroot purslane, common redmaids shepherdspurse sowthistle, annual

#### **ONIONS**

## Agricultural Use Requirements

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

Cultural Considerations: For maximum preemergence activity, the soil surface should be smooth and free of excessive trash (clippings, plant residues, etc.). Following application, cultural practices that result in redistribution or disturbance of the soil surface or move untreated soil into treated areas will reduce weed control. For best results, make applications to established beds that are left undisturbed during the time period for which weed control is desired.

Weed Control	Rate Oxbow 2E	Specific Use Directions
Postemergence	2 – 4 fl. oz./A	Northeastern States Including Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont: Apply Oxbow 2E at 2 to 4 fl oz per acre to seeded onions that have at least 3 true leaves using ground equipment. Multiple treatments at 2 to 4 fl oz per acre may be applied up to a maximum of 2 pints (32 fl oz) per acre per use season. For optimum postemergence control, apply when susceptible weeds are in the 2 to 4-leaf stage and actively growing.
Postemergence	0.5 – 1 pint/A	Western States Including Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Texas, Utah and Washington: Apply Oxbow 2E at 0.5 to 1 pt per acre to seeded onions that have at least 2 true leaves using ground equipment. Multiple treatments at 0.5 to 1 pt per acre may be applied up to a maximum of 2.5 pints per acre per use season. For optimum postemergence control, apply when susceptible weeds are in the 2 to 4-leaf stage and actively growing.
Postemergence	0.5 pint/A	All Other States: Apply Oxbow 2E at 0.5 pt per acre to seeded onions that have at least 2 true leaves using ground equipment. Multiple treatments at 0.5 pt per acre may be applied up to a maximum of 2 pints per acre per use season. For optimum postemergence control, apply when susceptible weeds are in the 2 to 4-leaf stage and actively growing.
Postemergence	(see above)	Sprinkler Irrigation- All Except Northeastern States (Center Pivot, Portable Lateral or Solid Set): Apply Oxbow 2E at the specified broadcast application rate using sufficient irrigation to wet soil to a depth of 2 inches. Follow the application directions and precautions for "Sprinkler Chemigation" given in the Chemigation

	section of this label.	
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Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence Postemergence	1 – 2 pts/A	Pre-transplant Application (Not for Use in Northeastern States of Western States): Oxbow 2E may be applied as a broadcast or band application after completion of tillage operations, but before transplanting of onion plants. Transplanting should be accomplished with a minimum of soil disturbance and, for optimum weed control, soil surfaces should be left undisturbed after transplanting for the period for which weed control is desired. However, timely cultivation after weed emergence will assist in weed control. If less than 2 pts per acre was applied as a pre-transplant application, postemergence applications may be made as instructed for seeded onions. Do not exceed the maximum use rate of 2 pts per acre per use season as a result of multiple applications.

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence	up to 2 pts/A	All States Except Northeastern States: Transplanted onions are most tolerant of a postemergence application immediately after transplanting. An application of up to 2 pints per acre may be made within two days after transplanting. If less than 2 pints per acre is applied, a second application can be made two weeks or more after transplanting. Do not exceed the maximum use rate of 2 pints per acre of Oxbow 2E per season as a result of multiple applications.
Preemergence	2 – 4 fl. oz./A	Northeastern States including Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont: Multiple treatments at 2 to 4 fl oz per acre may be applied up to a maximum of 2 pints (32 fl oz) per acre per use season.

## Onions- Use Precautions (Applicable to All Areas and Methods of Application):

- Oxbow 2E can cause necrotic lesions, twisting, pigtailing or stunting of the onion plants. Injury
  will be more severe if applications are made immediately following or during cool, wet weather
  and/or if applications are made prior to the specified onion growth stage of the onion plants as
  specified in Specific Use Directions.
- Do not apply to onion plants that are under stress due to drought, flooding, excessive fertilizer or soil salts, storage conditions, wind injury, hail, frost damage, injury from previously applied pesticides, or injury due to insects, nematodes or diseases.

## Onions-Crop-Specific Restrictions (Applicable to All Areas and Methods of Application):

- In all states except Northeastern states, do not apply until direct seeded onion plants have at least two (2) fully developed true leaves. In the Northeastern states, do not apply until direct seeded onion plants have at least three (3) fully developed leaves. Application made prior to the specified growth stage may result in serious crop injury and is not recommended.
- Do not apply more than a total of 2 pints per acre of Oxbow 2E per use season as a result of multiple applications.
- · Do not apply within 45 days of harvest.
- Do not apply Oxbow 2E as a preemergence treatment to direct seeded onions.
- · Use only on dry bulb onions.
- · Do not apply to onions grown for seed, except as instructed in separate use directions.
- For Arizona, California, Idaho, Oregon, New Mexico, Nevada, Utah and Washington only, tank mixtures of Oxbow 2E with oils, surfactants, liquid fertilizers or other pesticides may be made but could result in unexpected results including enhanced crop response or injury.
- See the Inherent Risks of Use section of the Terms and Conditions of Use at the end of the label for more information.

## Key Weeds Controlled:

Postemergence
canarygrass (annual)
Evening primrose, cutleaf (a)
groundsel, common
mallow, little (malva)
nightshade, black
pigweed, prostrate (b)
pigweed, redroot (a,b)
puncturevine
purslane, common (a,b)
rocket, London
sage, lanceleaf
shepherdspurse (b)
sowthistle, annual

(a)Weeds controlled when applied as a pre-transplant application. In addition, Oxbow 2E at the rate of 1 to 2 pints per acre will provide control/suppression of carpetweed, Pennsylvania smartweed, galinsoga, common lambsquarters, and wild mustard. Applications of Oxbow 2E to muck soils may result in partial control or suppression of the weeds listed.

(b) Specific weeds controlled at rates specified for use in northeastern states (see DOSAGE section).

#### **ONIONS GROWN FOR SEED**

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

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence	2 fl. oz./A	Northeastern States including Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont: Multiple treatments at 2 fl oz per acre may be applied up to a maximum of 2 pints (32 fl oz) per acre per use season. Prior to initial treatment, seeded onions must have at least four (4) true leaves. Multiple treatments at the aforementioned rate may be applied.
Preemergence	Up to 0.5 pt/A	All other States: Apply Oxbow 2E at up to 0.5 pt per acre to seeded onions that have at least three (3) true leaves. Multiple treatments at 0.5 pt per acre may be applied up to a maximum of 2 pints per acre per use season. For optimum postemergence control, apply when susceptible weeds are in the 2 to 4-leaf stage and actively growing. Sprinkler Irrigation- Portable Lateral or Solid Set: Apply Oxbow 2E at the specified broadcast application rate using sufficient irrigation to wet soil to a depth of 2 inches. Follow the application directions and precautions for "Sprinkler Chemigation" given in the Chemigation section of this label.

### **Use Precautions:**

- Notice: Some varieties or inbred lines of onions may be more susceptible to Oxbow 2E. Care should be taken to ensure that the particular onion variety or line being grown is tolerant to Oxbow 2E. It is suggested that all onion varieties or lines be tested in limited areas to ensure an adequate level of crop tolerance prior to an application for postemergence weed control.
- Oxbow 2E can cause necrotic lesions, twisting, pigtailing or stunting of the onion plants. Injury will be more severe if applications are made immediately following or during cool, wet weather and/or if applications are made prior to the specified onion growth stage of the onion plants as specified in Specific Use Directions.
- Do not apply to onion plants that are under stress due to drought, flooding, excessive fertilizer or soil salts, wind injury, hail, frost damage, injury from previously applied pesticides, or injury due to insects or diseases.

#### **Crop-Specific Restrictions:**

- In all states, do not apply Oxbow 2E until the onions have reached the minimum leaf stage specified. Application prior to the specified stage of development may result in serious injury and is not recommended.
- Do not apply more than a total of 2 pints per acre of Oxbow 2E during one use season.
- · Do not apply within 60 days of harvest.
- For seeded onions, do not apply Oxbow 2E with oils, surfactants, liquid fertilizers or other pesticides except as specified in approved Oxbow 2E Supplemental Labeling.

Key Weeds Controlled: Postemergence

canarygrass (annual)
Evening primrose, cutleaf
groundsel, common
mallow, little (malva)
nightshade, black
pigweed, prostrate\*
pigweed, redroot\*
puncturevine
purslane, common\*
rocket, London
sage, lanceleaf
shepherdspurse
sowthistle, annual

\* Specific weeds controlled at rates specified for use in northeastern states (see DOSAGE section).

### **PAPAYA**

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence Postemergence	4 pts/A	The initial application should occur no sooner than 4 months after transplanting or 6 months after direct seeding, and after the papaya has reached a minimum height of 4 feet. Applications may be repeated at approximate 4-month intervals.  Apply preemergence or postemergence to weeds. Increase the spray volume to assure adequate coverage of dense growth of emerged weeds. Oxbow 2E must be applied as a directed spray to the orchard floor beneath the papaya plants. Accurate, uniform placement of Oxbow 2E is essential for effective weed control and to minimize crop injury. Oxbow 2E must be applied using rigid precision ground sprayer equipment. Postemergence applications may be made up to the 4 leaf stage of weed growth.

#### Precautions:

- Do not allow the herbicide solution, spray, drift or mist to contact green bark, stems, fruit or foliage as injury may result.
- Do not use Oxbow 2E on papaya plantings that are weak, or under stress due to temperature, disease, fertilizer, nematodes, insects, pesticides, drought or excessive moisture.

### **Crop-Specific Restrictions:**

- Do not apply more than 4 pints of Oxbow 2E per broadcast acre in a single directed spray or more than 12 pints per broadcast acre per year as a result of multiple applications.
- Do not apply Oxbow 2E within 1 day of harvest.

## **Key Weeds Controlled:**

amaranth, spiny

purslane, common spurge, garden

## SOYBEANS

Soy	beans: Early Prepla	ant Application in Conservation Tillage Systems
Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence	1.5 – 3 pts/A	Early Preplant Application: Surface apply Oxbow 2E to the stale seedbed approximately 14 days before planting conservation tillage soybeans for postemergence and preemergence residual broadleaf control. Use a spray volume of 20 or more gallons per acre and increase the spray volume if growth of existing weeds is dense. Oxbow 2E at 2 to 3 pints provides early season suppression of annual grasses, but should not be relied upon as a basic grass herbicide. A planned program utilizing herbicides registered for early preplant, preemergence or postemergence grass control in soybeans is recommended. Use of ridge or slot planter or a similar planting implement that causes minimal soil disturbance is recommended. Movement or redistribution of surface soil will reduce herbicidal effectiveness.
	Soyl	beans: No-Till (Double-Crop)
Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence Postemergence	0.5 – 2 pts/A	Preemergence Application to Soybeans: Applied preemergence, Oxbow 2E provides postemergence and residual preemergence control of susceptible broadleaf weeds. Apply Oxbow 2E within one day after planting. Later applications may result in severe crop injury and are not recommended. Apply in a minimum spray volume of 20 gallons per acre and increase spray volume if growth of existing weeds is dense.
mixed with paraquat (Gr	ramoxone) or glyphos ay also be tank mixe	control of existing grass and broadleaf weeds, Oxbow 2E may be tank sate. For extended residual control of annual grasses in no-till d with a residual grass herbicide such as Bronco Herbicide, Dual
Postemergence	1 pt/A	Postemergence Directed Application: Oxbow 2E may be applied as a post-directed application. Optimum control is achieved when Oxbow 2E is applied to seedling weeds not exceeding 4 true leaves (not counting cotyledon leaves) and actively growing. Use of an 80% nonionic surfactant cleared for application to growing crops at the rate

	of 2 pints per 100 gallons of spray is recommended whenever postemergence weed control is desired. For postemergence application, soybeans must be a minimum 8 inches tall. Use a minimum of 2 flat fan nozzles per row. Use branch lifters or shields to prevent excessive spray contact to the soybean plants. Do not use hollow cone nozzles.
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Weed Control		
	Rate Oxbow 2E	Specific Use Directions
Preemergence Postemergence	1 – 1.5 pts/A	Preemergence Application to Soybeans: Oxbow 2E provides preemergence control of susceptible broadleaf weeds. Apply Oxbow 2E within one day after planting. Later applications may result in severe crop injury and are not recommended. Apply in a minimum spray volume of 20 gallons per acre and increase spray volume if growth of existing weeds is dense. The 1.5 pint per acre rate will assist in early season annual grass control but should not be relied upon as a basic grass herbicide. Oxbow 2E may also be applied as a pre-emergence application following a preplant incorporated grass herbicide treatment.
mixes of Oxbow 2E with Oxbow 2E at 0.6 to 1.5 Dual Magnum Herbicide following a preplant incordual Magnum, or Lasso	hin one day after p pints per acre may or Lasso Herbicide. porated grass herbi herbicides. Refer to	Iditional Grass and Broadleaf Weeds): Apply preemergence tank lanting. Later applications may result in severe crop injury. The applied preemergence to soybeans in tank mix with Oxbow 2E may be applied alone as a preemergence application cide application or as a tank mix in a preemergence application with the label of tank mix product for additional weeds controlled. The applied preemergence to soybeans in tank mix with
		Refer to the label for Command 6EC for additional weeds controlled.

Postemergence Tank Mixes: For broader spectrum control of broadleaf weeds, Oxbow 2E may be applied in tank mix with Butoxone Herbicide or Butyrac 200 Herbicide. Use 1 pint of Oxbow 2E with 1 pint of Butoxone or 0.7 to 0.9 pint of Butyrac 200 per acre. Refer to label of tank mix product for additional weeds controlled.

## Soybeans- Precautions (All Methods and Timings to Soybeans):

· Soybeans are tolerant to preemergence and post-directed applications of Oxbow 2E at specified rates; however,

under certain conditions injury may occur. Heavy splashing rain shortly after crop emergence or cold, wet soil conditions during early growth stages can cause leaf cupping and crinkling. When injury occurs, it is generally limited to the first few leaves that develop after crop emergence. Soybeans recover from this injury and yields are not adversely affected. Soybeans accidentally sprayed during a post-directed application will exhibit necrotic spotting and injury to the soybean plant. Exercise care to avoid spray contact with the soybean leaves.

### Sovbeans- Crop-Specific Restrictions:

- Tank Mixing: Read and observe all label directions before using. Follow applicable use directions, precautions and limitations on the labels of the respective tank mix products. Refer to Mixing Directions section for Tank Mixing Precautions. Follow applicable use directions, precautions, and limitations on the respective product labels. In interpreting the labels of tank mixed products, the most restrictive limitations must apply.
- Do not make more than two applications of Oxbow 2E per growing season.
- Do not apply more than 2 pints (0.5 lb active) of Oxbow 2E per acre during one growing season as a result of preemergence application in no-till (double-crop) or conventional till soybeans, or post-directed in conventional till soybeans. If early preplant application is made, do not apply more than 3 pints (0.75 lb active) of Oxbow 2E per acre during one growing season.
- Do not apply a post-directed application of Oxbow 2E to soybeans after the initial appearance of blooms.

## Key Weeds Controlled (Oxbow 2E Alone):

## Preemergence

groundcherry, cutleaf\*

iimsonweed

lambsquarters, common nightshade, American black\*

nightshade, black\* pigweed, redroot poinsettia, wild shepherdspurse

sida, prickly (teaweed) smartweed. Pennsylvania sowthistle, common\*

velvetleaf

## Postemergence

cocklebur, common

croton, tropic

groundcherry, cutleaf groundcherry, Wright

iimsonweed

lambsquarters, common

morningglory, annual (up to 6 leaf)

mustard, wild

nightshade, American black

nightshade, black nightshade, hairy pigweed, redroot \* poinsettia, wild purslane, common sesbania, hemp

shepherdspurse

sicklepod\*\*

sida, prickly (teaweed)\* smartweed, Pennsylvania

velvetleaf

<sup>\*</sup> Multiple applications may be required for acceptable control.

<sup>\*\*</sup>Post-direct applications of Oxbow 2E will kill or suppress seedlings not exceeding the one true leaf stage.

# TARO (For Use Only in Hawaii)

For use only to dryland taro grown in Hawaii. Dryland taro is defined as taro grown without irrigation, or by using irrigation practices that do not result in run-off, irrigation return flow, or other loss of irrigation water from the production area. If irrigation is used, the water applied shall not exceed the field capacity of the soil.

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence	2 pts/A	Preemergence to Taro and Weeds: A single application of Oxbow 2E at the rate of 2 pints per acre maybe applied within 1 week after transplanting but prior to emergence of taro plants.
Postemergence	1 pt/A	Postemergence to Taro and Weeds: Oxbow 2E may be applied as a post-directed or band application at the rate of 1 pint per acre. Effective control of succulent weed seedlings in the 2-to 3-leaf stage can usually be obtained. Applications to weeds beyond the 3-leaf stage may result in partial control.

#### Precautions:

- Accurate, uniform placement of Oxbow 2E is essential for effective weed control and to minimize crop injury. Taro
  foliage receiving accidental spray or drift will be injured. Oxbow 2E must be applied using rigid precision ground
  sprayer equipment.
- Occasionally, after the use of Oxbow 2E, spotting, crinkling or flecking may appear on the leaves of the taro. Leaves that receive direct or indirect (drift) spray contact will be injured.
- Do not use Oxbow 2E on taro plantings that are weak, or under stress due to temperature, disease, fertilizer, nematodes, insects, pesticides, drought or excessive moisture.

#### **Crop-Specific Restrictions:**

- Do not apply more than 2 pints of Oxbow 2E per broadcast acre as a single preemergence application.
- Do not apply more than 1 pint of Oxbow 2E per acre in a single post-direct spray or more than 2 pints per acre per season as a result of multiple post-directed applications.
- Do not apply more than 4 pints of Oxbow 2E per acre per season as a result of preemergence and post-direct applications.
- Do not apply Oxbow 2E within 6 months of harvest of taro (corms, leaves).

## **Key Weeds Controlled:**

amaranth, spiny purslane, common spurge, garden

## TREE FRUIT/NUT/VINE CROPS (Dormant Application)

Almond, Apple, Apricot, Avocado, Beechnut, Brazil Nut, Butternut, Cashew, Cherry, Chestnut, Chinquapin, Crab Apple, Date, Feijoa, Fig, Filbert, Grapes, Hickory Nut, Kiwi, Loquat, Macadamia Nut, Mayhaws, Nectarine, Olives, Peach, Pear, Pecan, Persimmon, Pistachio, Plum, Pomegranates, Prune, Quince, and Walnut

Rate Oxbow 2E	Specific Use Directions
5 – 6 pts/A	Apply Oxbow 2E in a minimum of 20 gallons of water per acre. Use higher spray volumes to ensure thorough coverage in high densities of emerged weeds or heavy trash. Sprays should be directed to the soil and the base of dormant trees or vines.  In California, Oxbow 2E may be applied as an over-the-top or directed spray to dormant nonbearing grape plantings. The use of a low-pressure sprayer is suggested. Do not apply over-the-top to grape plantings that are under stress due to drought, flooding, excessive fertilizer or soil salts, storage conditions, wind injury, hail, injury from previously applied pesticides, or injury due to insects, nematodes, or diseases, as severe crop injury may result.
5 – 8 pts/A	
2 – 6 pts/A	Apply in a spray volume of 40 or more gallons per acre. For optimum control, apply when weeds are at seedling stage of growth.  The lower rate in the rate range (2 pints per acre) is recommended
2 – 8 pts/A	for the control of susceptible seedling weeds in the early postemergence stage up to the 4-leaf stage. Higher rates (up to 6 pints per acre) may be used for weeds up to the 6-leaf stage. Applications to weeds beyond the 6-leaf stage may result in partia control.
	0xbow 2E 5 - 6 pts/A 5 - 8 pts/A 2 - 6 pts/A

**Tank Mixing:** Refer to Mixing Directions section for Tank Mixing Precautions. Follow applicable use directions, precautions, and limitations on the respective product labels. In interpreting the labels of tank mixed products, the most restrictive label limitations must apply. See labels of tank mix partners to determine suitability and use rates for various crops.

- Postemergence: for broader spectrum postemergence control of listed grass and broadleaf weeds,
   Oxbow 2E may be applied in tank mix with paraquat (Gramoxone) or glyphosate. These herbicides may also be added to preemergence tank mixes for enhanced control of existing weeds.
- Preemergence: For broad-spectrum preemergence control of susceptible grass and broadleaf weeds in listed tree fruit, nut or vine plantings, Oxbow 2E may be applied in tank mix with napropamide (Devrinol herbicide), diuron (Karmex herbicide), pronamide (Kerb® herbicide), simazine, norfluazon (Solicam herbicide) or oryzalin (Surflan herbicide).

Chemigation (All States): For dormant season application using sprinkler (low-volume (micro sprinkler)), drip (trickle), and flood (basin) irrigation systems, apply Oxbow 2E at the specified rate per acre. Follow applicable directions in the Chemigation section of this label when making applications using irrigation systems.

#### Precautions:

- Oxbow 2E or any of the combinations specified on this label should be applied to only healthy growing trees or vines.
- Avoid direct plant contact. Direct spray toward the base of tree or vines unless specific use directions allow overthe-top application.

#### **Crop-Specific Restrictions:**

- In all states, unless otherwise specified, do not apply Oxbow 2E during the period between bud swell and completion of final harvest or when fruit/nuts are present. Oxbow 2E may be applied upon completion of final harvest.
- In Arizona and California, Oxbow 2E may be applied during the period following completion of final harvest up to February 15 (February 1st in the Coachella Valley, California). Applications made after these calendar dates, but prior to bud swell, may result in significant crop injury and are the responsibility of the user.

- For banded applications, up to 8 pints per acre of Oxbow 2E per use season may be applied within the treated band. Do not apply more than a maximum of 6 pints per acre per use season on a broadcast basis.
- Do not apply to grapes or kiwi established less than 3 years unless vines are on a trellis wire a minimum of 3 feet above the soil surface.
- Do not apply to grapes or kiwi that are not staked or trellised unless vines are free standing.

# Key Weeds Controlled (Arizona and California): Preemergence

burclover cheeseweed (malva) fiddleneck, coast filaree, broadleaf filaree, redstem filaree, whitestem groundsel, common henbit knotweed, prostrate lambsquarters, common lettuce, prickly pigweed, redroot purslane, common redmaids rocket, London shepherdspurse sowthistle, annual

### Postemergence

cheeseweed (malva) fiddleneck, coast filaree, broadleaf\* filaree, redstem\* filaree, whitestem\* groundsel, common henbit minerslettuce nettle, burning pigweed, redroot redmaids shepherdspurse sowthistle, annual

<sup>\*</sup> Oxbow 2E at the 6-pint rate will provide control of filaree not exceeding the 4-inch stage. Applications to filaree beyond the 4-inch stage may result in partial control.

## Key Weeds Controlled (All Other States Except Arizona and California)

Preemergence camphorweed cudweed, narrowleaf Evening primrose, cutleaf\* groundcherry, cutleaf iimsonweed lambsquarters, common nightshade, American black nightshade, black pepperweed, Virginia pigweed, redroot poinsettia, wild sida, prickly smartweed, Pennsylvania sowthistle, annual spurge, prostrate spurge, spotted

velvetleaf

Postemergence balsamapple cocklebur, common cudweed, narrowleaf\*\* Evening primrose, cutleaf\*\*\* groundcherry, cutleaf groundcherry, Wright iimsonweed lambsquarters, common morningglory, annual nightshade, American black nightshade, black pepperweed, Virginia pigweed, redroot poinsettia, common purslane, common sesbania, hemp shepherdspurse sida, prickly (teaweed) smartweed, Pennsylvania sowthistle, annual velvetleaf

\*\*Maximum 0.5-inch diameter.

# GRAPES (Non-Dormant Application) (California Only)

Oxbow 2E may be applied as a directed spray or, for supplemental preemergence weed control, through low-volume sprinkler (micro sprinkler) or drip irrigation systems for control or suppression of listed broadleaf weeds in non-dormant grapes (raisin and wine grapes only). Oxbow 2E may also be applied to all grapes (raisin, table, and wine) as a dormant season application. Refer to Tree fruit/Nut/Vine Crops (Dormant Application) section above for use directions for dormant season application to grapes.

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence	2 pts/A	Oxbow 2E may be applied preemergence or postemergence to weeds either as a directed spray in a minimum spray volume of 20 gallons per acre or through low-volume sprinkler (micro sprinkler) or drip irrigation systems. Repeat applications may be required. Applications may be made from completion of bloom up to 14 days

<sup>\*</sup>Highest rate and/or multiple applications may be required for acceptable control.

<sup>\*\*\*</sup>Highest rate and/or multiple applications may be required for acceptable control.

Postemergence	1 – 2 pts/A	before to harvest.  When applied as a postemergence directed spray, add 1 quart 80% active non-ionic surfactant cleared for application to growing crops per 100 gallons of spray. Sprays should be directed to the soil and
		the base of vines.

#### Tank Mixing:

• When applied as a directed postemergence spray using ground equipment, Oxbow 2E may be applied in tank mix with paraquat (Gramoxone) or glyphosate in a minimum spray volume of 10 gallons per acre. Refer to Mixing Directions section for Tank Mixing Precautions. Follow applicable use directions, precautions, and limitations on the respective product labels. In interpreting the labels of tank mixed products, the most restrictive label limitations must apply.

Chemigation: Follow chemigation instructions in Application Instructions and Restrictions section.

• Low Volume Sprinkler (Microsprinkler) and Drip (Trickle) Irrigation: Apply only through low-volume sprinkler or drip systems designed to uniformly distribute irrigation water beneath the canopy. Meter Oxbow 2E at a continuous rate during the middle 1/3 of the irrigation period and discontinue application during the final 1/3 of the irrigation period to ensure proper flushing of the irrigation system. Use of Oxbow 2E through low-volume sprinklers or drip emitters helps to reduce the "ring effect" of weed escapes in areas around sprinklers or emitters where previously applied broadcast or directed treatments begin to break down.

#### Precautions:

- Crop Tolerance: The use of Oxbow 2E may result in varying degrees of injury to non-dormant grapes. Grape foliage will typically exhibit injury symptoms from direct or indirect (spray drift, soil contact) exposure. This injury may result in necrosis, reddening, cupping or crinkling of grape leaves. The grape plant will continue to grow normally. Grape leaves that are immature or expanding at the time of contact with Oxbow 2E are the most susceptible to foliage injury. Grapes may exhibit some small blemishes (spots or flicks) on the fruit.
- Oxbow 2E is phytotoxic to plant foliage. Avoid drift to all other crops and nontarget areas. Do not apply when weather conditions favor drift.

## **Crop-Specific Use Restrictions:**

- The total amount of Oxbow 2E applied during one season (from completion of final harvest through dormancy to non-dormant use covered by this section) cannot exceed 6 pints per acre as a result of multiple applications in any given area (broadcast, banded, or within the wetted area of the low-volume sprinkler or drip irrigation system.)
- · Do not apply within 14 days of harvest.
- Do not initiate application of Oxbow 2E in non-dormant grapes until the completion of the bloom period.
- Do not apply to grapes established less than 3 years unless vines are either on a trellis wire a minimum of 3 feet above the soil surface, or protected by grow tubes.
- Oxbow 2E should be applied only by ground application equipment or through low-volume sprinkler (micro sprinkler) or drip (trickle) irrigation systems.
- Apply Oxbow 2E as a non-dormant application to wine grapes or raisin grapes only.

# Key Weeds Controlled or Suppressed: Preemergence

burclover cheeseweed, malva fiddleneck, coast groundsel, common henbit knotweed, prostrate lambsquarters, common minerslettuce mustard, black nettle, burning nightshade, black pigweed, redroot purslane, common redmaids rocket, London sowthistle, annual

## Postemergence

cheeseweed, (malva)
fiddleneck, coast
groundsel, common
henbit
minerslettuce
morningglory species, annual
mustard, black
nettle, burning
nightshade, black
pigweed, redroot
purslane, common
redmaids
rocket, London
sowthistle, annual

### SUCKER CONTROL IN NON-DORMANT GRAPES

(Washington and Oregon Only) (Grapes for Wine and Processing Only)

Weed Control,	Rate Oxbow 2E	Specific Use Directions
Grape suckers less than 12 inches in length	1 – 2 pts/A	Apply Oxbow 2E in a three-foot band directed towards newly emerging suckers at the base of the grapevine. The highest rate and/or a second application may be required to achieve an acceptable level of control/suppression of grape suckers. Avoid spray contact on flowers, grape clusters, or fruit. Use mounted nozzles to deliver the spray solution. Thorough spray coverage of sucker growth is essential for optimal activity. Use a spray volume of 50 or more gallons per acre (broadcast basis).

**Tank Mixing:** For enhanced postemergence sucker activity, a tank mixture of Oxbow 2E with either glufosinate (Rely Herbicide) or paraquat (Bonfire™, Gramoxone®, etc.) can be used. Apply at the specified rates and growth stages in a manner described on the respective labels. Refer to Mixing Directions section for Tank Mixing Precautions. Follow applicable use directions, precautions, and limitations on the respective product labels. In interpreting the labels of tank mixed products, the most restrictive label limitations must apply.

#### Precautions:

• The use of Oxbow 2E may result in varying degrees of injury to non-dormant grapes. Grape foliage will typically exhibit injury symptoms from direct or indirect (spray drift or soil contact) exposure. This injury may result in necrosis, reddening, cupping or crinkling of grape leaves. The grape plant will continue to grow normally.

Leaves that are immature or expanding at the time of contact with Oxbow 2E are the most susceptible to injury. Grape fruit may exhibit some small blemishes (spots or flecks) on the fruit.

#### **Crop-Specific Restrictions:**

- The total amount of Oxbow 2E applied during one crop year (dormant and non-dormant) cannot exceed 6 pints per acre as a result of multiple applications in any given area (broadcast or banded).
- · Oxbow 2E should be applied only by ground application equipment.
- · Apply Oxbow 2E as a non-dormant application for sucker control only to wine or processed grapes.
- · Do not apply Oxbow 2E within 60 days of harvest.

# PISTACHIOS, WALNUTS, ALMONDS (CALIFORNIA ONLY) (Non-Dormant Application)

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence	5 – 6 pts/A	Preemergence: For residual weed control of listed weeds.
Postemergence	1 - 2 pts/A	Postemergence (Suppression): Apply to seedling weeds less than 4 inches in height. Repeat applications may be required.
	2 – 6 pts/A	Postemergence (Cleanup): Contact (postemergence) control for cleanup sprays and preharvest applications. Apply to seedling weeds less than 4 inches in height. Applications to weed seedlings beyond the 4-inch stage may result in partial control.

**Tank Mixing:** For broader spectrum grass and broadleaf weed control in tree row middles, Oxbow 2E may be tank mixed with either paraquat or glyphosate (Gramoxone). Refer to Mixing Directions section for Tank Mixing Precautions. Follow applicable use directions, precautions, and limitations on the respective product labels. In interpreting the labels of tank mixed products, the most restrictive label limitations must apply. **Chemigation:** Follow chemigation instructions in Application Instructions and Restrictions section.

**Flood (Basin) Irrigation:** For flood (basin) irrigation systems, meter continuously into the water during the entire irrigation period. Best weed control results are obtained when a uniform distribution and flow of irrigation water is maintained over level land. Irrigation water treated with Oxbow 2E must be contained on the treated area until the water is absorbed by the soil.

Low Volume Sprinkler (Microsprinkler) and Drip (Trickle) Irrigation: Apply only through low-volume sprinkler or drip systems designed to uniformly distribute irrigation water beneath the tree canopy. Applications should be made prior to weed emergence; otherwise postemergence activity may be inconsistent due to uneven coverage. Meter Oxbow 2E at a continuous rate during the middle 1/3 of the irrigation period and discontinue application during the final 1/3 of the irrigation period to ensure proper flushing of the irrigation system. Use of Oxbow 2E through low-volume sprinklers or drip emitters helps to reduce the "ring effect" of weed escapes in areas around sprinklers or emitters where previously applied broadcast or directed treatments begin to break down.

#### Precautions:

- · Direct spray toward the base of trees. Avoid direct contact with foliage or nuts.
- · Oxbow 2E should be applied only to healthy growing trees.

## **Crop-Specific Use Restrictions:**

- When applied as a non-dormant treatment, Oxbow 2E can only be applied to pistachio plantings between May and 7days prior to harvest.
- When applied as a non-dormant treatment, Oxbow 2E can only be applied to almond plantings between April 1 and September 30 and to walnut plantings between May 1 and September 30.

- · Do not apply Oxbow 2E within 7 days of harvest of pistachios.
- · Do not apply Oxbow 2E within 30 days of harvest of almonds.
- · Do not apply Oxbow 2E within 7 days of harvest of walnuts.
- Do not apply more than 6 pints of Oxbow 2E per acre during the non-dormant season.

## Key Weeds Suppressed and/or Controlled

cheeseweed, (malva) morningglory species, annual

fiddleneck, coast mustard, black filaree, broadleaf nettle, burning filaree, redstem pigweed, redroot filaree, whitestem purslane, common

groundsel, common redmaids

henbit rocket, London minerslettuce sowthistle, annual

Additional Weeds Controlled in Tank Mix with Glyphosate or Paraquat

barnyardgrass horseweed (marestail)

bluegrass, annual rocket, London chickweed, common ryegrass, Italian

## WINDBREAKS AND SHELTERBELTS

(For Use Only in Minnesota, North Dakota, South Dakota and Wyoming)

Weed Control	Rate Oxbow 2E	Specific Use Directions
Preemergence Postemergence	4 – 6 pts/A	Oxbow 2E may be applied as a broadcast, banded or post-directed postemergence spray.  Preemergence control is most effective when spray is applied to clean, weed-free soil surfaces. Pre-transplant applications must be made after completion of soil preparation but prior to transplanting. Transplanting should be completed with minimal soil disturbance. For optimum weed control results, treated soil surfaces should be left undisturbed during the time period for which weed control is desired. Postemergence Weed Control: For best results, apply before 4-leaf stage for broadleaf weeds or 2-leaf stage for grass weeds.  Conifers: Oxbow 2E can be applied pre-transplant, post-directed or postemergence (over-the-top) to conifers. Postemergence or post-directed applications should be applied prior to budbreak or after new growth foliage has hardened off and new terminal buds have formed.  Deciduous Hardwoods: Oxbow 2E has exhibited selectivity to many deciduous species when applied pre-transplant or as a post-directed spray prior to budbreak.

#### Precautions:

- Important: Some varieties or cultivars of conifers or deciduous species listed may be susceptible to Oxbow 2E. Care should be taken to ensure that the particular variety to be sprayed with Oxbow 2E is tolerant. For unfamiliar species, it is suggested that Oxbow 2E be tested on a limited number of plants prior to large-scale application.
- · Occasionally after the use of Oxbow 2E, a spotting, crinkling or flecking may appear on the leaves of the

deciduous species. Leaves that receive direct or indirect (drift) spray contact will be injured. Deciduous species typically rapidly outgrow these symptoms and develop normally.

- Application after budbreak may result in injury to deciduous species. If non-dormant application is required, apply only after foliage has fully expanded and hardened off. Avoid direct or indirect spray contact with the foliage by applying to the soil surface as a directed spray.
- Apply Oxbow 2E only to healthy deciduous and/or conifer trees. Do not apply Oxbow 2E to conifers or deciduous trees that have been weakened or under stress from excessive fertilizer or soil salts, disease, nematodes, frost, drought, flooding, previously applied pesticides, soil insects, or winter injury, as severe injury may result.

## Specific Use Restrictions for Shelterbelts:

• Do not apply more than 6 pints of Oxbow 2E per acre in a single application or more than 18 pints per acre per year.

## **Key Grasses Controlled:**

Barnyardgrass foxtail, giant bluegrass, annual goosegrass crabgrass, large witchgrass

## **Key Broadleaf Weeds Controlled:**

buckwheat, wild burclover carpetweed dock, curly groundcherry, cutleaf groundcherry, Wright groundsel, common henbit iimsonweed knotweed, prostrate kochia ladysthumb lambsquarters, common lettuce, prickly mallow, little mayweed mustard, blue mustard, tumble mustard, wild nettle, burning nightshade, black nightshade, hairy oats, wild orach, red pepperweed, yellow flower pigweed, prostrate

pigweed, redroot purslane, common rocket, London shepherdspurse\* smartweed, Pennsylvania sowthistle, annual tansymustard thistle, Russian (seedling) velvetleaf

Oxbow 2E may be applied to numerous conifer and deciduous species, including the following:

Common Name	Scientific Name	
Conifer Species		
douglas fir	Pseudotsuga menziesii	
fir		
grand	Abies grandis	Santa Control
fraser	Abies fraseri	
noble	Abies procera	
hemlock		
eastern hemlock	Tsuga Canadensis	
western hemlock	Tsuga heterophylla	
pine		100 P. S. 4 M.
Austrian	Pinus nigra	
eastern white	Pinus strobes	1 2 30
jack	Pinus banksiana	
Himalayan	Pinus graffithii	Beile March
loblolly	Pinus taeda	
lodgepole	Pinus contorta	The still have
longleaf	Pinus palustris	
monterey	Pinus radiate	
mugo	Pinus mugo	
ponderosa	Pinus ponderosa	
scotch	Pinus sylvestris	
shortleaf	Pinus echinata	
slash	Pinus elliotti	
Virginia	Pinus virginiana	
spruce		
blue	Picea pungens	
dwarf Alberta	Picea glauca conica	
Norway	Picea abies	TEOLOGICA.
Sitka	Picea sitchensis	

<sup>\*</sup> The highest rate or multiple applications may be required for acceptable control.

arborvitae	Thuja occidentalis	
	Thuja orientalis	
juniper	Juniperus chinensis	
	Juniperus horizontalis	
	Juniperus procumbens	
	Juniperus sabina	
	Juniperus scopulorum	
red cedar	Juniperus virginiana	
yew	Taxus spp.	

Common Name	Scientific Name	
Deciduous Hardwood Species		
ash	Fraxinus spp.	
crabapple	Malus spp.	
eucalyptus	Eucalyptus spp.	
lilac	Syringa vulgaris	
maple, black	Acer nigrum	
oak, northern red	Quercu's rubra	
olive, Russian	Elaeagnus angustifolia	
poplar (cottonwood)	Populus spp.	
sweetgum	Liquidambar styraciflua	
sycamore	Platanus occidentalis	
walnut, black	Juglans nigra	

## STORAGE AND DISPOSAL

DO NOT contaminate water, food or feed by storage and disposal.

Pesticide Storage: Store above 40°F (5°C).

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

## Nonrefillable containers 5 gallons or less:

Container Handling: Nonrefillable container. Do not reuse or refill this container. After rinsing, 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 ½ 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 to 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.

## Refillable containers larger than 5 gallons:

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 responsibility 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 and, if possible, spray all sides while adding water. If practical, 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. Then offer for recycling if available 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.

## Nonrefillable containers larger than 5 gallons:

**Container Handling:** Nonrefillable container. Do not reuse or refill this container. After rinsing, 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) after emptying. **Triple rinse** as follows: Empty the remaining contents into application or a mix tank. Fill the container ¼ 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 tank 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 to 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.

Steps to be Taken In Case Material Is Released or Spilled: Ventilate area. Avoid breathing vapors. Use MSHA/NIOSH self-contained breathing apparatus or airline respirator for large spills in confined areas. Dike the spill with inert material (sand, earth, etc.) and transfer the liquid or solid diking material to separate containers for recovery or disposal. Remove contaminated clothing promptly and wash exposed skin areas with soap and water. Wash clothing before reuse. Keep spill out of all sewers and bodies of water.

# IMPORTANT INFORMATION READ BEFORE USING PRODUCT

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

**NOTICE**: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

### Inherent Risks of Use

The Directions for Use of this product reflect the opinion of experts based on field use and tests, and must be followed carefully. It is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of United Phosphorus, Inc. or Seller. Handling, storage, and use of the product by Buyer or User are beyond the control of United Phosphorus, Inc. and Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold United Phosphorus, Inc. and Seller harmless for any claims relating to such factors.

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