



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs  
Registration Division (7505P)  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

EPA Reg. Number:

71368-133

Date of Issuance:

4/14/21

NOTICE OF PESTICIDE:

Registration  
 Reregistration  
(under FIFRA, as amended)

Term of Issuance:

Unconditional

Name of Pesticide Product:

Longbow EC

Name and Address of Registrant (include ZIP Code):

Nufarm Americas Inc.  
4020 Aerial Center Parkway, Suite 101  
Morrisville, NC 27560

**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 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 unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product when the Agency requires all registrants of similar products to submit such data.
2. Make the following label changes before you release the product for shipment:
  - Revise the EPA Registration Number to read, "EPA Reg. No. 71368-133."

Signature of Approving Official:

Shaja B. Joyner, Product Manager 20  
Fungicide-Herbicide Branch  
Registration Division 7505P

Date:

4/14/21

3. Submit one copy of the revised final printed label for the record before you release the product for shipment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 09/20/2020
- Alternate CSF dated 11/20/2020

If you have any questions, please contact Ernest Kraka via email at [kraka.ernest@epa.gov](mailto:kraka.ernest@epa.gov)

Enclosure

|                       |       |          |           |
|-----------------------|-------|----------|-----------|
| Carfentrazone – ethyl | Group | <b>E</b> | Herbicide |
|-----------------------|-------|----------|-----------|

# LONGBOW EC

## [Herbicide]

**INTENDED FOR AGRICULTURAL OR COMMERCIAL USE**

|                             |               |
|-----------------------------|---------------|
| <b>Active Ingredient:</b>   | <b>By Wt.</b> |
| Carfentrazone – ethyl ..... | 22.3%         |
| Other Ingredients.....      | <u>77.7%</u>  |
| Total                       | 100.0%        |

This product contains 2.0 pounds active ingredient per gallon.  
Contains Petroleum Distillates

**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION / PRECAUCION**

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.)

**SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS**

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300  
For Medical Emergencies Only, Call (877) 325-1840

EPA REG. NO. 71368-XXX  
EPA EST. NO. \_\_\_\_\_

MANUFACTURED FOR  
NUFARM AMERICAS INC.  
11901 S. AUSTIN AVE.  
ALSIP, IL 60803  
(800) 345-3330

NET CONTENTS: \_GAL. ( \_\_ L)

[Designation as “NONREFILLABLE” or “REFILLABLE” for containers >5 gals]

[[Nufarm] Grow a better tomorrow]

[Product of China]

**ACCEPTED**

04/14/2021

Under the Federal Insecticide, Fungicide  
and Rodenticide Act as amended, for the  
pesticide registered under  
EPA Reg. No. 71368-133

**PRECAUTIONARY STATEMENTS**  
**Hazards to Humans and Domestic Animals**  
**CAUTION / PRECAUCION**

Harmful if swallowed, absorbed through the skin or inhaled. Causes moderate eye irritation. Avoid breathing vapors. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling.

**Personal Protective Equipment (PPE)**

Applicators and other handlers must wear: long-sleeved shirt and long pants, waterproof gloves, and shoes plus socks.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

| <b>USER SAFETY RECOMMENDATIONS</b>   |  |
|--|--|
| <b>Users Should:</b>   |  |
| <ul style="list-style-type: none"> <li>• Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.</li> <li>• Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.</li> <li>• 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.</li> </ul> |  |

| <b>FIRST AID</b>              |   |
|-------------------------------|---|
| <b>IF INHALED</b>             | <ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 9-1-1, then administer C.P.R. if possible.</li> <li>• Call a poison control center, doctor or the <b>HOTLINE NUMBER</b> below for further treatment advice.</li> </ul>   |
| <b>IF ON SKIN OR CLOTHING</b> | <ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>  |
| <b>IF IN EYES</b>             | <ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>                                      |
| <b>IF SWALLOWED</b>           | <ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Do not give any liquid to the person.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul> |

|   |
|---|
| <p><b>HOTLINE NUMBER</b></p> <p>Have the product container or label with you when calling a poison control center or doctor or going for treatment.<br/>           You may also contact 1-877-325-1840 for emergency medical treatment information.</p>   |
| <p><b>Note to Physician:</b> Carfentrazone-ethyl is expected to have low oral and dermal toxicity and moderate inhalation toxicity. It is expected to be slightly irritating to the skin and minimally irritating to the eyes. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.</p> |

**ENVIRONMENTAL HAZARDS**

This product is very toxic to algae and moderately toxic to fish. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the high-water mark, except as specified on this label. Do not contaminate water sources when disposing of equipment wastewater.

**For ground water:**

Residues of this chemical have properties and characteristics associated with chemicals detected in ground water. Residues of this chemical may leach into ground water if the chemical is used in areas where soils are permeable, particularly where the water table is shallow.

**For surface water:**

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of carfentrazone-ethyl residues from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

**PHYSICAL / CHEMICAL HAZARDS**

Do not use or store near heat or open flame.

**DIRECTIONS FOR USE**

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

Do not apply this product through any type of irrigation system.

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

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

**Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.**

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: Long sleeve shirt and pants, waterproof gloves, and shoes plus socks.

**Non-Agricultural Use Requirements**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

**Re-entry Statement:** Do not allow people (other than applicator) or pets on treatment area during application. Do not enter treatment area until spray has dried.

**RISKS OF USING THIS PRODUCT**

The Buyer and User (referred to collectively herein as "Buyer") of this product must be aware that there are inherent unintended risks associated with the use of this product which are impossible to eliminate. These risks include, but are not limited to, injury to plants and crops to which this product is applied, lack of control of the target pests or weeds, resistance of the target pest or weeds to this product, injury caused by drift, and injury to rotational crops

caused by carryover in the soil. Such risks of crop injury, non-performance, resistance or other unintended consequences are unavoidable and may result because of such factors as weather, soil conditions, disease, moisture conditions, irrigation practices, condition of the crop at the time of application, presence of other materials either applied in the tank mix with this product or prior to application of this product, cultural practices or the manner of use or application, (or a combination of such factors) all of which are factors beyond the control of Nufarm. The Buyer must be aware that these inherent unintended risks may reduce the harvested yield of the crop in all or a portion of the treated acreage, or otherwise affect the crop such that additional care, treatment and expense are required to take the crop to harvest. If the Buyer chooses not to accept these risks, THEN THIS PRODUCT IS NOT TO BE APPLIED. By applying this product Buyer acknowledges and accepts these inherent unintended risks AND TO THE FULLEST EXTENT ALLOWED BY LAW, AGREES THAT ALL SUCH RISKS ASSOCIATED WITH THE APPLICATION AND USE ARE ASSUMED BY THE BUYER.

Nufarm shall not be responsible for losses or damages (including, but not limited to, loss of yield, increased expenses of farming the crop or such incidental, consequential or special damages that may be claimed) resulting from use of this product in any manner not set forth on the label. Buyer assumes all risks associated with the use of this product in any manner or under conditions not specifically directed or approved on the label.

See also **WARRANTY DISCLAIMER** and **LIMITATION OF LIABILITY** sections of the label for additional information.

## PRODUCT INFORMATION

LONGBOW EC, an emulsifiable concentrate formulation, is designed to be combined with water and/or liquid fertilizer and adjuvants. The product can be applied to labeled crops and non-crop areas for selective postemergence control of broadleaf weeds, sucker control, burndown prior to planting, a harvest aid and to defoliate/desiccate labeled crops.

### RESTRICTIONS FOR ALL USES:

- Do not use on other crops not specified on this label grown for food or forage. Apply this product only as specified on this label.
- Do not rotate any crop not listed on this label for 12 months following application of LONGBOW EC. For label listed crops, a treated field may be rotated at any time, subject to specific crop restrictions that may be found in the individual crop sections.
- Do not allow sprays to drift on to adjacent desirable plants.

## WEED RESISTANCE MANAGEMENT

For resistance management, LONGBOW EC contains a Group 14 herbicide, Any weed population may contain or develop plants naturally resistant to LONGBOW EC and other Group 14 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Appropriate resistance management strategies should be followed.

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control of these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

To delay herbicide resistance, take one or more of the following steps:

- Rotate the use of LONGBOW EC or other Group 14 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.

- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or other mechanical control methods), cultural (e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method for example hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management directions for specific crops and weed biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Contact your local sales representative, crop advisor, or extension agent to find out if suspected resistant weeds to this MOA have been found in your region. Do not assume that each listed weed is being controlled by this mechanism of action. Co-formulated active ingredients are intended to broaden the spectrum of weeds that are controlled. Some weeds may be controlled by only one of the active ingredient in this product.

Suspected herbicide-resistant weeds may be identified by these indicators:

- \* Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
- \* A spreading patch of non-controlled plants of a particular weed species; and
- \* Surviving plants mixed with controlled individuals of the same species.

## **INTEGRATED PEST MANAGEMENT**

Nufarm advises the use of Integrated Pest Management (IPM) programs to control pests. This product may be used as part of an Integrated Pest Management (IPM) program which can include biological, cultural, and genetic practices aimed at preventing economic pest damage. Application of this product should be based on IPM principles and practices including field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area. For best results apply to actively growing weeds. LONGBOW EC is a contact herbicide and is rapidly absorbed through the foliage of plants. Evidence of desiccation may be seen within a few hours of application however temperature, moisture, soil conditions, and cultural practices may affect timing. Moisture may accelerate activity. Efficacy may be reduced when weeds are hardened off by drought and become less susceptible.

Avoid application within 6 to 8 hours of rain, irrigation or when heavy dew is present on the crop. Environmental conditions and certain spray tank additives may increase herbicidal symptoms on the crop.

## **TANK MIXTURES**

Tank mix LONGBOW EC with other registered herbicides to control a broader spectrum of weeds. Refer to product's labels for mixing instructions, precautions, and restrictions and follow the most restrictive instructions for each tank mix partner. When preparing a new tank mix conduct a compatibility test by mixing proportional amounts of all ingredients in a test container prior to tank mixing with other products.

Shake the mixture vigorously and allow it to stand for five to ten minutes. If mixture precipitates and fails to re-suspend when shaken this indicates the mixture is incompatible and should not be applied. Provided the jar test shows the mixture to be compatible, prepare the tank mixture as follows: Fill the tank one fourth full with water. With the agitator operating, add the specified amounts of ingredients using the following order: dry granules first and liquid suspensions (flowables) second. As the agitation continues and the tank is filled with water add emulsifiable concentrate products third followed by the addition of water soluble products.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

### **ADJUVANT USE REQUIREMENTS**

For optimum results use a quality spray adjuvant. Refer to the individual crop sections of this label for specific adjuvant type and use rates.

### **PREAPPLICATION TESTING**

It is advised to preform small trials under actual conditions with specific varieties or cultivars before treating large acreage. Not all varieties or cultivars of labeled crops have been fully evaluated under all environmental and soil conditions. Consult with your local seed company for additional information.

### **APPLICATION INFORMATION**

#### **Mixing and Loading Instructions**

- Fill the tank with  $\frac{3}{4}$  of the desired volume of clean water and, with agitation, add the appropriate amount of LONGBOW EC.
- While maintaining agitation, fill remaining volume with water.
- Continue agitation keeping materials in solution during both mixing and application and until the spray tank has been emptied.
- For tank mixtures, follow your local extension guidelines for mixing order. (General guidelines are: add dry materials first and agitate until mixed; then EW or water-soluble liquids; then EC formulations; then, add adjuvants last. Ensure the compatibility of other products and/or liquid fertilizers with LONGBOW EC before mixing them together in the spray tank.)
- It is not advised to hold the spray mixture overnight. If spray solution is stored overnight or longer, completely agitate spray mixture before application. Premixing LONGBOW EC spray solutions in nurse tanks is not advised. Maintain continuous and adequate spray solution agitation until all the spray solution has been used. Do not use with tank additives that alter the pH of the spray solution below pH 5 or above pH 8. Buffer spray solutions if necessary to maintain the pH between 5-8.

### **SPRAYER CLEANUP**

Spray equipment, including mixing vessels and nurse tanks, must be cleaned each day following application of this product. Equipment with residue remaining in the system may result in crop injury to the subsequently treated crop. **Pesticides can be active at low rates, especially to sensitive crops.** Residues may cause crop damage if not properly cleaned.

After spraying LONGBOW EC and before using the sprayer equipment for any other applications, the sprayer equipment must be thoroughly cleaned using the following procedure. In addition, users must take appropriate steps to ensure proper equipment clean-out for any other products mixed with LONGBOW EC as required on the other product labels. More efficient cleaning is achieved if the spray system is cleaned immediately following the application.

1. Completely drain sprayer tank, hoses, spray boom and spray nozzles. Use a high-pressure detergent wash to remove physical sediment and residues from the inside of the sprayer tank and rinse thoroughly. Then, thoroughly flush sprayer hoses, spray boom and spray nozzles with a clean water rinse. Remove and clean spray tips and all filters and screens (tank, spray hose and spray tips) separately in the ammonia solution of Step 2.



2. Prepare a sprayer cleaning solution by adding three gallons of ammonia (containing at least 3% active) per 100 gallons of clean water. Prepare sufficient cleaning solution to allow the operation of the spray system for a minimum of 15 minutes to thoroughly flush hoses, spray boom and spray nozzles.
3. Convenient and thorough cleaning of the sprayer can be achieved if the ammonia solution or fresh water is left in the spray tank, hoses, spray booms and spray nozzles overnight or during storage.
4. Completely drain the sprayer system before using the sprayer. Using clean water rinse the tank, flush the hoses, spray boom, and spray nozzles.
5. In accordance with Federal, State, and local regulations and guidelines, properly dispose of all cleaning solution and rinsate.

Do not apply sprayer cleaning solutions or rinsate onto sensitive crops. Use product the same day of mixing. Do not store the sprayer overnight or for any extended period of time with LONGBOW EC spray solution remaining in the tank, spray lines, spray boom plumbing, spray nozzles or strainers.

If the sprayer has been stored or idle, purge system (including spray boom and nozzles) with clean water before beginning using.

Small quantities of LONGBOW EC remaining in inadequately cleaned mixing, loading and/or spray equipment, may be released during subsequent applications potentially causing harm to certain crops and other vegetation. NUFARM accepts no liability for any effects due to negligence with inadequately cleaned equipment.

## **APPLICATION AND SPRAYER INFORMATION**

### **GROUND APPLICATION**

Uniform delivery is crucial. Equipment, including ground sprayers designed, calibrated and operated to deliver uniform spray droplets to the targeted plant or plant parts should be used.

Overlaps and slower ground speeds (caused by continuing to spray while starting, stopping or turning) may result in higher application rates and possible crop injury.

### **Spray Buffer for Ground Application**

See ground application spray buffer zones below., These buffers are required near any desirable vegetation.

| <b>Buffers</b>                                       |                                    |   |
|--|------------------------------------|---|
| <b>LONGBOW EC USE RATE<br/>(lbs ai<br/>per acre)</b> | <b>Low Spray Boom Buffer (ft.)</b> | <b>High Spray Boom Buffer<br/>(ft.)</b> |
| 0.024  | 20                                 | 33                                      |
| 0.031  | 26                                 | 46                                      |

### **Broadcast Boom Sprayers**

Use a broadcast boom sprayer equipped with the appropriate nozzles, spray tips and screens, adjusted to provide optimum spray distribution and coverage at the appropriate operating pressures. Choose a nozzle type that produce minimal amounts of fine spray droplets. Do not exceed 30 psi spray pressure unless otherwise required by the manufacturer of drift reducing nozzles. Apply a minimum of 10 gallons of finished spray per acre. Use higher spray volumes when there is a dense weed population or crop canopy. Adjust sprayers to position spray tips no lower than 12-18 inches above the crop or weed canopy depending on the nozzle specification. Operate the sprayer to avoid the application of high herbicide rates directly over the rows or into the whorl of treated crop plants.

### **Directed Sprayers**

Use drop nozzles or other post direct spray equipment for directed sprayers.

Post directed applications may be made when labeled crops have reached a minimum growth stage where sprays may be directed to the target weeds, but is not deposited on the green stem, foliage, blooms or fruit of the crop. Do not apply when wind speed is greater than 10MPH or conditions favor drift. Use drop nozzles or other spray equipment capable of directing the spray to target weeds and away from sensitive plant parts.

### **Hooded Sprayers**

Refer to the Hooded Sprayer Section for specific adjustment and operation instructions. For additional information, refer to the individual crop sections of this label.

### **Hand held or high-volume orchard gun sprayers**

LONGBOW EC may be applied to certain labeled crops and non-crop areas with hand operated sprayers such as backpack sprayers, compression sprayers, knapsack sprayers, or high-volume orchard gun sprayers. Refer to individual crop sections of this label. Directed applications may be utilized when labeled crops have reached minimum growth stages where sprays may be directed to the target weeds, but is not deposited on the green stem, foliage, blooms or fruit of the crop.

## **AERIAL APPLICATION**

### **Refer to individual crop sections to see if application is permitted by air.**

Use nozzle types and arrangements that will optimize coverage and produce a minimal amount of fine droplets. Apply at a minimum of 3 gallons of finished spray per acre. Spray volumes greater than 3 GPA may be needed for harvest aid and defoliation treatments, or for dense weed populations or with dense crop canopies.

### **For Aerial Application in California**

For applications near desirable perennial vegetation or crops before blossom and after total leaf drop, and/or near other desirable or annual crops:

- Do not apply within 100 feet of all desirable vegetation or crops.
- If wind up to 10 miles per hour is blowing toward desirable vegetation or crops, do not apply within 500 feet of the desirable vegetation or crops.
- Do not apply when winds are in excess of 10 mph or when inversion conditions exist.

## **SPRAY DRIFT MANAGEMENT**

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR AND THE GROWER.

LONGBOW EC is a contact protoporphyrinogen oxidase herbicide. Avoid any drift conditions that would allow the product to contact desirable vegetation. LONGBOW EC is not volatile, however; mist from spray drift may cause injury to sensitive plants.

The interaction of equipment and weather-related factors determine the potential for spray drift. 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 movement from applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications of dry materials. Where states have more stringent regulations, they must be observed.

### **Information on droplet size**

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

All aerial and ground application equipment must be properly maintained and calibrated using

appropriate carriers.

For all non-aerial applications, wind speed must be measured adjacent to the application site, on the upwind side, immediately prior to application.

### **Controlling Spray Droplet Size**

**Volume Median Diameter (VMD)** – VMD is the expression of the droplet size of the spray cloud. The VMD value means that 50% of the droplets are larger than the expressed value and 50% of the droplets are smaller than the expressed value. Optimum LONGBOW EC spray clouds should be 450 microns with fewer than 10% of the droplets being 200 microns or less.

**Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows usually produce larger droplets.

**Pressure** - Do not use pressures greater than that specified by the nozzle manufacturer. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

**Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.

**Nozzle Orientation** – For aerial application, orient nozzles so that the spray is released parallel to the airstream. A parallel orientation results in larger droplets than other orientations and reduces air turbulence and the production of small droplets. Significant deflection from horizontal will reduce droplet size and increase drift potential.

**Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low drift nozzles. For aerial applications, solid stream nozzles oriented straight back produce the largest droplets and potentially the least drift.

**Boom Length** - For some aerial use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

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

**Swath Adjustment** - Swath adjustment distance must increase, with increasing drift potential (higher wind, smaller drops, etc.).

**Wind** - Drift potential is lowest between winds speeds of 3 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. Applications shall be avoided below 3 mph due to variable wind direction and high inversion potential. Do not apply LONGBOW EC when wind speed exceeds 10 mph. NOTE: Local terrain can influence wind patterns. Every applicator shall be familiar with local wind patterns and how they affect spray drift.

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

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

and rapidly dissipates indicates good vertical air mixing.

**Sensitive Areas – Do not apply** LONGBOW EC if wind is blowing toward adjacent sensitive areas (e.g. residential areas, bodies of water, known habitats for threatened or endangered species and non-target crops).

**Table 1: Maximum Application Rate Per Year\***  
(see crop section for use directions)

| <b>LONGBOW EC Maximum Application Rate Per Year</b>                   |                         |
|---|-------------------------|
| Crop  | Fl oz/Acre              |
| Alfalfa and Clover (Group 18)   | 2.5 (0.04 lb ai/acre)   |
| Alfalfa and Clover (Group 18) harvest aid only                        | 3.8 (0.06 lb ai/acre)   |
| Asparagus   | 3.8 (0.06 lb ai/acre)   |
| Banana  | 7.9 (0.124 lb ai/acre)  |
| Berry, low growing (Subgroup 13-07G),<br>Bushberry (Subgroup 13-07B)  | 6.1 (0.096 lb ai/acre)  |
| Cacao   | 7.9 (0.124 lb ai/acre)  |
| Caneberry (Subgroup 13-07A)   | 25.6 (0.4 lb ai/acre)   |
| Citrus fruit (Group 10-10)  | 7.9 (0.124 lb ai/acre)  |
| Coconut   | 7.9 (0.124 lb ai/acre)  |
| Coffee  | 7.9 (0.124 lb ai/acre)  |
| Corn  | 2.0 (0.031 lb ai/acre)  |
| Cotton  | 7.9 (0.124 lb ai/acre)  |
| Cotton, harvest aid only  | 3.2 (0.05 lb ai/acre)   |
| Date  | 7.9 (0.124 lb ai/acre)  |
| Fig   | 7.9 (0.124 lb ai/acre)  |
| Fruit, small vine climbing – except fuzzy kiwifruit (Subgroup 13-07F) | 7.9 (0.124 lb ai/acre)  |
| Globe Artichoke   | 6.1 (0.096 lb ai/acre)  |
| Grass (Group 17)  | 5.9 (0.093 lb ai/acre)  |
| Guayule   | 7.9 (0.124 lb ai/acre)  |
| Herbs and Spices (Group 19)   | 6.1 (0.096 lb ai/acre)  |
| Hops  | 7.6 0.12 lb ai/acre)    |
| Horseradish   | 6.1 (0.096 lb ai/acre)  |
| Indian Mulberry   | 7.9 (0.124 lb ai/acre)  |
| Kiwifruit   | 7.9 (0.124 lb ai/acre)  |
| Mint  | 1.92 (0.030 lb ai/acre) |
| Nut, Tree (Group 14-12)   | 7.9 (0.124 lb ai/acre)  |
| Oil Seed – except cottonseed (Group 20)                               | 6.1 (0.096 lb ai/acre)  |
| Olive   | 7.9 (0.124 lb ai/acre)  |
| Palm Heart  | 7.9 (0.124 lb ai/acre)  |
| Peanut  | 6.1 (0.096 lb ai/acre)  |
| Peanut (harvest aid)  | 2.0 (0.031 lb ai/acre)  |
| Persimmon   | 7.9 (0.124 lb ai/acre)  |

|  |                         |
|--|-------------------------|
| Pome fruit (Group 11-10)   | 7.9 (0.124 lb ai/acre)  |
| Pomegranate  | 7.9 (0.124 lb ai/acre)  |
| Rice (In California only)  | 19.2 (0.3 lb ai/acre)   |
| Rice (Southern Use Only)   | 8.8 (0.138 lb ai/acre)  |
| Rice, harvest aid only (not permitted in California)   | 1.47 (0.023 lb ai/acre) |
| Small Grains   | 1.0 (0.016 lb ai/acre)  |
| Small Grains (except winter wheat)   | 2.0 (0.031 lb ai/acre)  |
| Small Grains (winter wheat)  |                         |
| Sorghum (harvest aid)  | 1.0 (0.016 lb ai/acre)  |
| Sorghum (grown for seed and grain)   |                         |
| Soybeans (preplant and in-season and harvest aid)  | 1.47 (0.023 lb ai/acre) |
| Stone fruit (Group 12-12)  | 7.9 (0.124 lb ai/acre)  |
| Sugarcane  | 6.1 (0.096 lb ai/acre)  |
| Sugarcane (harvest aid)  | 2.0 (0.031 lb ai/acre)  |
| Tea  | 7.9 (0.124 lb ai/acre)  |
| Teff   | 2.0 (0.031 lb ai/acre)  |
| Tobacco  | 3.2 (0.05 lb ai/acre)   |
| Tropical fruit Trees   | 6.1 (0.096 lb ai/acre)  |
| Vanilla  | 7.9 (0.124 lb ai/acre)  |
| Vegetable, brassica (Group 5), bulb (Group 3-07), cucurbit (Group 9), foliage of legume (Group 7), fruiting (Group 8-10), leafy except Brassica (Group 4), leaves of root and tuber (Group 2), legume (Group 6 – except soybean), root (Subgroups 1A and 1B) | 6.1 (0.096 lb ai/acre)  |
| Vegetable, tuberous and corm (Subgroups 1C and 1D)   | 11.6 (0.181 lb ai/acre) |
| Wild Rice  | 19.2 (0.3 lb ai/acre)   |
| *Includes all applications made to the field per calendar year (including fallow treatments, burndown treatments and all in-season treatments, including harvest aid.)   |                         |

## PREHARVEST INTERVALS

Refer to the crop section of this label for specific product use directions.

**Table 2:**

| Preharvest Intervals (PHI) / Maximum Growth Stage for Applications    |                                     |
|---|-------------------------------------|
| Crop Group  | PreHarvest Interval or Growth Stage |
| Alfalfa and Clover (Group 18) grown for Forage and /or Hay            | 21                                  |
| Alfalfa and Clover (Group 18) grown for Seed                          | 3                                   |
| Asparagus   | 5                                   |
| Banana  | 3                                   |
| Berry, low growing (Subgroup 13-07G)                                  | 0                                   |
| Bushberry (Subgroup 13-07B)   | 0                                   |
| Cacao   | 3                                   |
| Caneberry (Subgroup 13-07A)   | 15                                  |
| Citrus fruit (Group 10-10)  | 3                                   |
| Coconut   | 3                                   |
| Coffee  | 3                                   |
| Corn  | 14 Leaf Collars                     |
| Corn, Sweet corn grown for seed, popcorn, field corn (harvest aid)    | 3                                   |
| Cotton (harvest aid)  | 7                                   |
| Cotton (preplant and in-season)                                       | 7                                   |
| Date  | 3                                   |
| Fruit, small vine climbing – except fuzzy kiwifruit (Subgroup 13-07F) | 3                                   |
| Fig   | 3                                   |
| Globe Artichoke   | 0                                   |
| Grass (Group 17)  | 0                                   |
| Guayule   | 3                                   |
| Herbs and Spices (Group 19)   | 0                                   |
| Hops  | 7                                   |
| Horseradish   | 0                                   |
| Indian Mulberry   | 3                                   |
| Kiwifruit   | 3                                   |
| Mint  | 5                                   |
| Nut, Tree (Group 14-12)   | 3                                   |
| Oil Seeds (Group 20 – except cottonseed)                              | 0                                   |
| Olive   | 3                                   |
| Palm Heart  | 3                                   |

|  |                       |
|--|-----------------------|
| Peanut   | 7                     |
| Persimmon  | 3                     |
| Pome fruit (Group 11-10)   | 3                     |
| Pomegranate  | 3                     |
| Rice (In California only)  | 60                    |
| Rice (southern use only)   | 60                    |
| Rice, harvest aid only (not permitted in California)   | 3                     |
| Small Grains (Except winter wheat)   | Jointing Stage        |
| Small Grains (harvest aid) – include Winter Wheat  | 7                     |
| Sorghum (harvest aid)  | 3                     |
| Sorghum (preplant and in-season)   | 14 Leaf Collars Stage |
| Soybean (harvest aid)  | 3                     |
| Soybeans (grown for seed and grain)  | V10                   |
| Stone fruit (Group 12-12)  | 3                     |
| Sugarcane  | 7                     |
| Tea  | 3                     |
| Teff   | Jointing Stage        |
| Teff (forage – harvest aid)  | 7                     |
| Teff (grain - harvest aid)   | 3                     |
| Tobacco  | 6                     |
| Tropical fruit   | 0                     |
| Vanilla  | 3                     |
| Vegetable, brassica (Group 5), bulb (Group 3-07), cucurbit (Group 9) , foliage of legume (Group 7) , fruiting (Group 8-10) , leafy except Brassica (Group 4) , leaves of root and tuber (Group 2) , legume (Group 6 – except soybean) , root (Subgroups 1A and 1B) | 0                     |
| Vegetable, tuberous and corm (Subgroups 1C and 1D)   | 7                     |
| Wild Rice  | 60                    |

#### **CROP ROTATIONAL RESTRICTIONS**

Following an application of **LONGBOW EC**, a treated field may be rotated to a registered crop at any time, subject to specific crop restrictions that may be found in the individual crop sections. All other crops may be planted after 12 months.

#### **WEED CONTROL**

When used as directed, **LONGBOW EC** will provide control of the listed weeds up to four (4) inches in height, or as specified.

**Table 3:**

| <b>LONGBOW EC Use Rate<br/>fl oz( lb a.i.) per acre</b> | <b>Weeds Controlled</b>  |
|---|--|
| <b>0.5 fl oz (0.008 lb a.i.) per acre</b>               | Lambsquarters, common (up to 3 inches tall)<br>Morning glory, ivyleaf (up to 3 leaves)<br>Morning glory, pitted (up to 3 leaves)<br>Nightshade, Eastern black<br>Pigweed, redroot<br>Velvetleaf<br>Waterhemp (up to 2 inches tall)   |
| <b>0.8 fl oz (0.013 lb a.i.) per acre</b>               | All the weeds controlled at 0.5 fl oz (0.008 pound active) per acre plus the weeds listed below:<br>Cheeseweed<br>Filaree, redstem<br>Flixweed<br>Lambsquarters, common<br>Mallow, common<br>Morningglory, entireleaf<br>Morningglory, ivyleaf<br>Morningglory, pitted<br>Morningglory, scarlet<br>Nightshade, hairy<br>Pennycress, field<br>Pigweed, prostrate<br>Pigweed, smooth<br>Pigweed, tumble<br>Purslane, common<br>Sesbania, hemp<br>Smartweed, PA (seedling)<br>Spurge, prostrate<br>Tansymustard<br>Velvetleaf (24")<br>Waterhemp, common & tall |
| <b>1.0 fl oz (0.016 lb a.i.) per acre</b>               | All the weeds controlled at 0.8 fl oz (0.013 pound active) per acre plus the weeds listed below:<br>Amaranth, spiny<br>Anoda, spurred<br>Bedstraw, catchweed<br>Buffalobur<br>Carpetweed<br>Cocklebur<br>Copperleaf, hophornbeam   |



|   |  |
|---|--|
|   | Cotton, GMO Varieties  |
|   | Cotton, volunteer  |
|   | Eclipta  |
|   | Fiddleneck, coast  |
|   | Groundcherry, smooth (seedling)  |
|   | Groundcherry, Wright's   |
|   | Jimsonweed   |
|   | Kochia   |
|   | Lettuce, Prickly 2-3 leaf  |
|   | Nettle, burning  |
|   | Nightshade, American black   |
|   | Nightshade, black  |
|   | Rocket, London   |
|   | Shepherdspurse   |
|   | Speedwell, Virginia  |
|   | Spiderwort, tropical   |
|   | Thistle, Russian (up to 2 inches tall)   |
|   | Wallflower, bushy  |
| <b>1.6 fl oz (0.025 lb a.i.) per acre</b> | All the weeds controlled at 1.0 fl oz (0.016 pound active) per acre plus the weeds listed below: |
|   | Amaranth, Palmer   |
|   | Corn Spurry  |
|   | Filaree, broadleaf   |
|   | Filaree, white   |
|   | Lettuce, prickly   |
|   | Mallow, Venice (up to 2 inches tall)   |
|   | Meadowfoam   |
|   | Redmaids   |

**Burndown of top growth**

| <b>LONGBOW EC Use Rate<br/>fl oz( lb a.i.) per acre</b> | <b>Weed List</b> |
|---|------------------|
| <b>1.0 - 2.0 fl oz (0.016 – 0.032 lb a.i.) per acre</b> | Bindweed, field  |
|   | Burclover        |
|   | Dayflower        |
|   | Sage, lanceleaf  |
|   | Sowthistle       |

**AGRICULTURE FARM AND FARMSTEAD USE – NON-CROP**

**Timing and Method of Application**

LONGBOW EC may be used for broadleaf weed control on farms and farmsteads in non-crop growing areas. See the rate and weed table 3 to determine the proper rate for areas such as grass waterways, field edges, terraces, equipment storage areas, shelter belts, fence lines, farm buildings, dry ditch, canal banks etc. LONGBOW EC is a contact herbicide and coverage is necessary for good weed control. LONGBOW EC will control emerged weeds only. Repeated treatment will be necessary for weeds that germinate after application.

**BOOM EQUIPMENT**

**LONGBOW EC Application Rate – Boom Equipment:**

Apply LONGBOW EC at up to 2.0 fl oz (0.031 lb ai) per acre.

**Adjuvant Requirements – Boom Equipment**

A nonionic surfactant, crop oil concentrate or methylated seed oil adjuvant is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient or a petroleum or oil seed based crop oil concentrate (COC) at 1.0 to 2 % v/v (1.0 to 2.0 gallons per 100 gallons of spray solution) or a methylated seed oil (MSO). A high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons) or ammonium sulfate at 2 to 4 pounds per acre in addition to the selected NIS, MSO or COC is acceptable.

**Tank Mixes – Boom Equipment**

Tank mixes with LONGBOW EC are allowed with products labeled for this method of application in non-crop areas for broader spectrum weed control. See Mixing and Loading Instruction under the PRODUCT INFORMATION section of this label. Refer to this and the tank mix labels for mixing instructions, precautions, and restrictions. Always follow the most restrictive instructions for each tank mix partner.

**SPOT TREATMENTS (Applications with hand operated sprayer such as backpack sprayers, compression sprayers, knapsack sprayers.)**

Mix the amount of LONGBOW EC for the desired percent spray solution from the table below. These mixtures are based on 1 gallon of solution evenly covering 1000 square feet. Applications should be made on a spray-to-wet basis. Spray coverage should be uniform and complete. Do not spray to runoff. See Table 3 for weeds controlled at specific concentrations. Use lower concentrations for small seedling weeds at the 2-3 leaf stage. Higher concentrations are needed for larger weeds up to the 6-leaf stage. Applications beyond the 6-leaf stage may result in only partial control. LONGBOW EC may be mixed with other labeled herbicides such as glyphosate, glufosinate, and paraquat for broader spectrum weed control.

**Table 4:**

| Desired Volume | Amount LONGBOW EC |                |                |                |                |
|----------------|-------------------|----------------|----------------|----------------|----------------|
|                | 0.5 fl oz/acre    | 0.8 fl oz/acre | 1.0 fl oz/acre | 1.6 fl oz/acre | 2.0 fl oz/acre |
| 1 Gal          | 0.4 ml            | 0.6 ml         | 0.7 ml         | 1.1 ml         | 1.4 ml         |
| 5 Gal          | 1.7 ml            | 2.7 ml         | 3.4 ml         | 5.4 ml         | 6.8 ml         |
| 25 Gal         | 8.5 ml            | 13.6 ml        | 17.0 ml        | 27.2 ml        | 34.0 ml        |

**Adjuvant Requirements**

A nonionic surfactant (NIS), methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use a nonionic surfactant (NIS) at 0.25% v/v having at least 80% active ingredient, or a methylated seed oil (MSO), or crop oil concentrate (COC) (petroleum or seed oil) at 1 to 2% v/v. A high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v or ammonium sulfate (AMS) at the rate of .75 to 1.5 ounces per gallon in addition to the nonionic surfactant methylated seed oil or crop oil is allowed.

**Table 5:**

| Desired Volume | Adjuvants  |            |                      |                      |                      |
|----------------|------------|------------|----------------------|----------------------|----------------------|
|                | NIS        | COC or MSO |                      | Liquid Nitrogen      |                      |
|                |            | 0.25%v/v   | 1.5% v/v             | 2.0% v/v             | 2.0% v/v             |
| 1 Gal          | 0.35 fl oz | 1.9 fl oz  | 2.5 fl oz<br>12.8 fl | 2.5 fl oz<br>12.8 fl | 5.0 fl oz<br>25.6 fl |
| 5 Gal          | 1.6 fl oz  | 9.6 fl oz  | oz                   | oz                   | oz                   |
| 25 Gal         | 8.0 fl oz  | 47 fl oz   | 2 qt                 | 2 qt                 | 4 qt                 |

**PREPLANT BURNDOWN**

Apply LONGBOW EC alone or with other herbicides or liquid fertilizers as a burn-down treatment to control or suppress weeds. LONGBOW EC is effective as a burndown treatment for crops prior to new plantings. Apply LONGBOW EC up to 2.0 fl oz (0.031 lb a.i.) per acre. Do not exceed the applicable amounts as listed for the specific crop in the MAXIMUM ALLOWABLE LONGBOW EC USE in Table 1. For optimum performance, make applications to actively growing weeds up to 4 inches high or rosettes less than 3 inches across. Coverage is essential for good control. Optimum broad-spectrum control of annual and perennial weeds requires a tank mix with a labeled burndown herbicide such as glyphosate, glufosinate, paraquat, 2,4-D, or dicamba.

**Apply LONGBOW EC as a burndown treatment no later than one (1) day after planting by seed to any of the following crops. (See specific crop section for other timings)**

|  |
|--|
| Alfalfa and Clover (Crop Group 18)                     |
| Cereal grains (Crop Group 15)                          |
| Grasses (Crop Group 17)                                |
| Oil Seed (Crop Group 20 – except cottonseed)           |
| Peanut   |
| Soybean  |
| Sugarcane  |
| Vegetables, legume (succulent or dried) (Crop Group 6) |
| Vegetable, tuberous and corm (Subgroup 1C)             |

**Apply LONGBOW EC as a burndown treatment no later than one (1) day before transplanting any of the following crops.**

|                                    |
|------------------------------------|
| Avocado                            |
| Banana                             |
| Berry, low growing subgroup 13-07G |
| Cacao                              |
| Coconut                            |
| Coffee                             |
| Date                               |
| Fig                                |
| Fruit, citrus (Crop Group 10-10)   |
| Fruit, pome (Crop Group 11-10)     |
| Fruit, stone (Crop Group 12-12)    |
| Globe Artichoke                    |
| Guayule                            |
| Hops                               |

|  |
|--|
| Horseradish  |
| Indian Mulberry  |
| Kiwifruit  |
| Nuts, tree (Crop Group 14-12)  |
| Olive  |
| Palm Heart   |
| Persimmon  |
| Pomegranate  |
| Small Fruit Vine, Climbing – except fuzzy kiwifruit (Subgroup 13-07F)  |
| Tea  |
| Tobacco  |
| Vanilla  |
| Vegetable, fruiting (Crop Group 8-10)  |
| <b>For transplants (not seeded) of the following crops</b>   |
| Vegetables, brassica (Crop Group 5)  |
| Vegetable, cucurbit (Crop Group 9)   |
| Vegetable, fruiting (Crop Group 8-10)  |
| Vegetables, leafy except brassica (Crop Group 4)   |
| <b>Apply LONGBOW EC as a burndown treatment no later than seven (7) days before planting by seed any of the following crops.</b>   |
| Vegetables, brassica (Crop Group 5)  |
| Vegetable, cucurbit (Crop Group 9)   |
| Vegetable, fruiting (Crop Group 8-10)  |
| Vegetable, leafy except brassica (Crop Group 4)  |
| Vegetable, tuberous and corm (Crop Subgroups 1C and 1D)  |
| <b>Apply LONGBOW EC as a burndown treatment no later than thirty (30) days before planting by seed any of the following crops.</b> |
| Sugarbeet  |
| Vegetable, bulb (Crop Group 3-07)  |

#### **Adjuvant Requirements for Preplant burndown**

A nonionic surfactant, crop oil concentrate or methylated seed oil is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient or a petroleum or oil seed based crop oil concentrate (COC) at 1.0 to 2 % v/v (1.0 to 2.0 gallons per 100 gallons of spray solution) or a methylated seed oil (MSO). A high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons) or ammonium sulfate at 2 to 4 pounds per acre in addition to the selected NIS, MSO or COC is allowed.

#### **LONGBOW EC Plus Glyphosate or Glufosinate**

Apply LONGBOW EC at 0.5 to 1.0 fl oz (0.008 to 0.016 lb a.i.) per acre in combination with glyphosate or glufosinate products at their labeled rates for increased speed of activity and improved control of weeds e.g. those listed as follows.

**When applied as directed, LONGBOW EC plus labeled herbicides e.g. glyphosate, glufosinate, or paraquat will provide increased speed of activity and improved control of weeds listed in Table 6 plus weeds listed in Table 3 for the rate of LONGBOW EC used.**

**Table 6\*:**

|                          |                             |
|--------------------------|-----------------------------|
| Buttercup, smallflower   | Morningglory, spp.          |
| Chickweed                | Pennycress, field           |
| Curled Dock              | Prostrate knotweed          |
| Cutleaf Evening Primrose | Purslane, common            |
| Bindweed, field          | Smartweed, PA               |
| Dandelion, common        | Star-of-Bethlehem           |
| Fleabane                 | Shepherdspurse              |
| Groundsel                | Tansymustard                |
| Henbit                   | Thistle, Russian            |
| Kochia                   | Thistles, annual & biennial |
| Lambsquarters, common    | Wild buckwheat              |
| Marestail                | Wild hemp                   |

\*NOTE: Only applies to glyphosate and/or glufosinate susceptible populations.

**When tank mixing with fertilizer solutions, be sure to first prepare a premixture of LONGBOW EC and clean water.**

For specific mixing instructions, refer to the Mixing and Loading Instructions in the PRODUCT INFORMATION section.

### **HOODED SPRAYER APPLICATIONS**

Apply LONGBOW EC to the row middles of the following emerged crops using hooded sprayers in accordance with specific use information in the following **Directions for Use** section.

Apply LONGBOW EC with hooded sprayers to control labeled weeds between the rows of the below listed emerged crops. This treatment is for crops grown in rows, and includes crops grown in rows where mulch or plastic barriers are used as a weed control tool in the drill or plant line.

**Hooded sprayers must be designed, adjusted and operated in such a manner to totally enclose the spray pattern and to prevent any spray deposition to green stem tissue, foliage, blooms or fruit of the crop.**

Sprayers shall not be operated at more than five (5) miles per hour in order to minimize vertical movement of the sprayer during application, including the bouncing or raising of the equipment. Use extreme care in applying to fields where the soil surface is uneven, has deep furrows, drains or other contours that would disturb the adjustment and positioning of the spray equipment and/or the spray pattern. Applications must not be made when wind conditions may disturb the spray patterns and result in spray deposition to sensitive plants or plant parts.

For optimum performance, make application to actively growing weeds up to 4 inches tall and rosettes less than 3 inches across. Complete coverage is essential for good control.

### **Crops Labeled for Use with Hooded Sprayers:**

Hooded Spray application can be used for all crops listed on this LONGBOW EC label.

**Precaution:**

**Crop injury will occur when spray is allowed to come in contact with the green stem tissue, leaves, blooms or fruit of the crop.**

**See listing for individual commodities contained within the respective Crop groups:**

Vegetable, Root and Tuber (Group 1) including: Arracacha, Arrowroot, Chinese artichoke, Jerusalem artichoke, Garden Beet, Sugar beet, Edible Burdock, Edible Canna, Carrot; Bitter and Sweet Cassava, Celeriac, Chayote (root), Turnip-rooted Chervil, Chicory, Chufa, Dasheen (taro), Ginger, Ginseng, Horseradish, Leren, Turnip-rooted Parsley, Parsnip, Potato, Radish, Oriental (daikon) Radish, Rutabaga, Salsify, Black Salsify, Spanish Salsify, Skirret, Sweet Potato, Tanier, Turmeric, Turnip, Yam bean; True Yam

Vegetable, leaves of root and tuber (Group 2) including: Garden Beet, Sugar Beet, Edible Burdock, Carrot, Bitter and Sweet Cassava, Celeriac, Chervil, Turnip-rooted, Chicory, Dasheen (taro), Parsnip, Radish, Oriental (daikon) Radish, Rutabaga, Black Salsify, Sweet Potato, Tanier, Turnip, True Yam

Vegetable, bulb (Group 3-07) including: Fresh Leaves Chive, Chinese Fresh Leaves Chive, Bulb Daylily, Elegans Hosta; Bulb Fritillaria, Leaves Fritillaria, Bulb Garlic, Great-headed Garlic, Serpent Bulb Garlic, Kurrat; Lady's Leek, Leek, Wild Leek, Bulb Lily, Beltsville Bunching Onion, Bulb Onion, Chinese Bulb Onion, Fresh Onion, Green Onion, Macrostem onion, Pearl onion, Potato Bulb Onion, Tree Tops Onion, Welsh Tops Onion, Bulb Shallot, Fresh Leaves shallot, and cultivars, varieties, and/or hybrids of these

Vegetable, leafy except brassica (Group 4) including: Amaranth (Chinese Spinach), Arugula (Roquette), Cardoon, Celery, Chinese Celery, Celtuce, Chervil, Edible-Leaved Chrysanthemum, Garland Chrysanthemum, Corn Salad, Cress, Garden, Upland Cress, Dandelion, Dock (Sorrel), Endive (Escarole), Florence Fennel, Head And Leaf Lettuce, Orach, Parsley, Garden Purslane, Winter Purslane, Radicchio (Red Chicory), Rhubarb, Spinach, New Zealand Spinach, Vine Spinach, Swiss Chard

Vegetable, brassica (Group 5) including: Broccoli; Chinese Broccoli, (gai lon), Broccoli Raab (rapini), Brussels Sprouts, Cabbage, Chinese Cabbage, (bok choy); Chinese Cabbage (napa), Chinese Mustard Cabbage (gai choy), Cauliflower, Cavalo Broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens

Vegetable, legume, except soybean (succulent or dried) (Group 6) including: Bean (*Lupinus* spp.) (includes grain lupin, sweet lupin, white lupin, and white sweet lupin); bean (*Phaseolus* spp.) (includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean); bean (*Vigna* spp.) (includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean); broad bean (fava); chickpea (garbanzo); guar; jackbean; lablab bean (hyacinth bean); lentil; pea (*Pisum* spp.) (includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea); pigeon pea; soybean (immature seed); sword bean

Vegetable, foliage of legume (Group 7) including: Plant parts of any legume vegetable included in the legume vegetables group that will be used as animal feed

Vegetable, fruiting (Group 8-10) including: African eggplant, Bush Tomato, Bell Pepper, Cocona, Currant Tomato, Eggplant, Garden Huckleberry, Goji Berry, Groundcherry, Martynia, Naranjilla, Okra, Pea Eggplant, Pepino, Non-Bell Pepper, Roselle, Scarlet Eggplant, Sunberry, Tomatillo, Tomato, Tree Tomato, and cultivars, varieties, and/or hybrids of these

Vegetable, cucurbit (Group 9) including: Chayote (fruit), Chinese Waxgourd (Chinese Preserving Melon), Citron Melon, Cucumber, Gherkin, Edible Gourd (includes Hyotan, Cucuzza, Hechima, Chinese Okra), *Momordica* spp. (includes Balsam Apple, Balsam Pear, Bittermelon, Chinese Cucumber), Muskmelon (includes Cantaloupe), Pumpkin, Summer Squash, Winter Squash (includes Butternut Squash, Calabaza, Hubbard Squash, Acorn Squash, Spaghetti Squash), Watermelon

Fruit, small vine climbing – except fuzzy kiwifruit (subgroup 13-07F) including: Amur river grape; gooseberry; grape; hardy kiwifruit; maypop; schisandra berry; cultivars, varieties, and/or hybrids of these

Berry, low growing (subgroup 13-07G) including: Bearberry, Bilberry, Lowbush Blueberry, Cloudberry, Cranberry, Lingonberry, Muntries, Partridgeberry, Strawberry, and cultivars, varieties, and/or hybrids of these.

Sapucaia Nut, Tropical Almond, Black Walnut, English Walnut, Yellowhorn and cultivars, varieties, and/or hybrids of these

Cereal Grains (Group 15) including: Barley, Buckwheat, Corn, Millet (Pearl and proso), Oats, Popcorn, Rice, Rye, Sorghum (milo), Teosinte, Triticale, Wheat, and Wild Rice

Forage, Fodder and Straw of Cereal Grains (Group 16) including: Forage, fodder and straw of all commodities included in the cereal grains (Group 15)

Grasses (Group 17) including: Any grass, Gramineae family (either green or cured) except sugarcane and those included in the cereal grains group, that will be fed to or grazed by livestock, all pasture and range grasses and grasses grown for hay or silage

Non-grass Animal Feed (Group 18) including: Alfalfa, Velvet Bean, Clover (*Trifolium* spp., *Melilotus* spp.), Kudzu, Lespedeza, Lupin, Sainfoin, Trefoil, Vetch, Crown Vetch, Milk Vetch

Herbs and Spices (Group 19) including: Allspice, Angelica, Anise (seed), Star Anise, Annatto (seed), Balm (Lemon Balm), Basil (Fresh and Dried), Borage, Burnet, Camomile, Capers Buds, Caraway, Black Caraway, Cardamom, Cassia Bark, Cassia Buds, Catnip, Celery Seed, Chervil (dried), Chive, Chinese Chive, Cinnamon, Clary, Clove Buds, Coriander Leaf (Cilantro or Chinese Parsley), Coriander Seed (Cilantro), Costmary, Culantro (Leaf), Culantro (Seed), Cumin, Curry (Leaf), Dill (Dillweed), Dill (Seed), Fennel (Common), Florence Fennel (seed), Fenugreek, Grains of Paradise, Horehound, Hyssop, Juniper Berry, Lavender, Lemongrass, Lovage (leaf), Lovage (seed), Mace, Marigold, Marjoram (includes Sweet or Annual Marjoram, Wild Marjoram or Oregano, and Pot Marjoram), Mustard (Seed), Nasturtium, Nutmeg, Parsley (Dried), Pennyroyal, Black Pepper, White Pepper, Poppy (Seed), Rosemary, Rue, Saffron, Sage; Summer and Winter Savory, Sweet Bay, Tansy, Tarragon, Thyme, Vanilla, Wintergreen, Woodruff, Wormwood

Oil Seeds (Subgroups 20A & 20B, except Cottonseed) including: Borage, Crambe, Cuphea, Echium, Flax Seed, Gold of Pleasure, Hare's Ear Mustard, Lesquerella, Lunaria, Meadowfoam, Milkweed, Mustard Seed, Oil Radish, Poppy Seed, Rapeseed, Sesame, Sweet Rocket, Calendula, Castor Oil Plant, Chinese Tallowtree, Euphorbia, Evening Primrose, Jojoba, Niger Seed, Rose Hip, Safflower, Stokes Aster, Sunflower, Tallowwood, Tea Oil Plant, Vernonia and cultivars, varieties, and/or hybrids of these

Tropical fruit: including Acerola, Atemoya, Avocado, Biriba, Black Sapote, Canistel, Cherimoya, Custard apple, Feijoa, Guava, Jaboticaba, Llama, Longan, Lychee, Mamey Sapote, Mango, Papaya, Passionfruit, Pawpaw, Pulasan, Rambutan, Sapodilla, Soursop Spanish lime, Star apple, Starfruit, Sugar apple, Wax jambu, Aloe vera, Cactus

For additional information regarding crops within a group, refer to the Website:  
<https://www.gpo.gov/fdsys/pkg/CFR-2010-title40-vol23/pdf/CFR-2010-title40-vol23-sec180-41.pdf>



## APPLICATION INSTRUCTIONS

### Alfalfa and Clover (Established Stands Only) Crop Group 18

#### Post-emergent Weed Control (Dormant, In-crop, and Stubble)

##### Rates

0.5-2.5 fl oz (0.008 – 0.04 pounds active ingredient) per acre

#### Dormant Season (Fall or Winter Application Postemerge on Weeds)

LONGBOW EC may be applied on dormant crop stubble alone or in combination with other registered herbicides for the post emergence control of weeds in established nongrass animal feed stands during the dormant season (between growing seasons). To control insect pests, LONGBOW EC may be tank mixed with insecticides, including Mustang Max.

#### Between Cutting In-Season Application (Spring/Summer Applications Postemerge on Weeds)

LONGBOW EC may be applied alone or in combination with other registered herbicides between cuttings (in-season) for the post emergence control of weeds in established crop stands. In-season applications should be made as soon as possible after removal of the previous hay crop and prior to significant regrowth on stems and crowns. Applications may be made from hay removal up to 6 inches of new growth. To control insect pests, LONGBOW EC may be tank mixed with insecticides, including Mustang Maxx.

#### LONGBOW EC Use Rates

For optimum results, weeds should be treated when small. Applications shall be made in spray volumes sufficient to provide complete coverage of foliage. Use a minimum of 10 gallons of finished spray per acre for ground application equipment, and a minimum of 3 gallons per acre of finished spray for aerial equipment. For optimum results, apply LONGBOW EC to weeds up to 4 inches tall and rosettes less than 3 inches across. Use a quality nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient. For more active treatments, use a Crop Oil Concentrate (COC) at 0.5 to 1.0% v/v (one half to one gallon per 100 gallons). Some temporary leaf speckling and necrosis may occur on green alfalfa or clover tissue present with between cutting applications, which should be rapidly outgrown under good growing conditions. Adjuvant selection and high moisture environmental conditions will enhance this effect. A high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the nonionic surfactant methylated seed oil or crop oil is allowed. Coverage is essential for satisfactory performance. Repeat application if necessary. Do not irrigate just prior to or just after application. Weed control under dry and hot conditions will be improved with COC or similar products.

#### Tank Mix

For tank mixture applications, refer to the use directions and restrictions of the mixture product.

LONGBOW EC may be tank mixed with other labeled herbicides to control weeds not listed on this label. Read and follow all manufacturers' label directions and label restrictions for the companion herbicide. When tank mixing LONGBOW EC with other products, be sure LONGBOW EC is mixed in the spray tank water first.

#### Harvest Aid Treatment

##### Application Rate

2.0 to 3.8 fl oz/A (0.03 – 0.06 pounds active ingredient) per acre

Apply LONGBOW EC to crops grown for forage, hay or seed alone or as a tank mixture with other harvest aids. Applications shall be made when the crop is mature, or according to Extension Service guidelines in the use area. Apply LONGBOW EC at 2.0 to 3.8 fl ozs. (0.031 to 0.06 pounds active ingredient) per acre, but not to exceed maximum labeled rates. Refer to the MAXIMUM ALLOWABLE LONGBOW EC USE RATE CHART and the PREHARVEST INTERVAL charts for additional application information. If treatments of LONGBOW EC have been made to the crop earlier, that volume must be considered in determining the maximum use rate as a harvest aid treatment

Applications should be made in spray volumes sufficient to provide complete coverage of foliage. Use a minimum of 10 gallons of finished spray per acre for ground application and 5 gallons per acre for aerial application. A nonionic surfactant (NIS), methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient, or a methylated seed oil, or crop oil concentrate (COC)(petroleum or seed oil) at 1 to 2 v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the nonionic surfactant methylated seed oil or crop oil is allowed. Coverage is essential for satisfactory performance. Repeat application if necessary.

### **Note**

If applied as a tank mixture, refer to the other product's label for restrictions on tank mixing, and observe all label precautions, instructions and rotational cropping restrictions.

### **RESTRICTIONS**

Do not apply within 21 days of harvest for stands grown for forage and hay.

- Do not apply within 3 days of harvest for stands grown for seed.
- Do not apply more than 2.5 fl ozs. (0.04 pounds active ingredient) per acre per season for postemerge weed control applications in nongrass animal feeds.
- After an application of this product to crop group 18 (nongrass animal feed crops), you may only rotate the field to a carfentrazone-ethyl registered crop.

## **ASPARAGUS**

### **Post-emergent Weed Control**

#### **Application Rate**

Apply one to two applications of LONGBOW EC at 0.5 to 1.92 fl oz (0.008 to 0.03 pound active ingredient lb a.i.) per acre. Use higher rates when Asparagus tissues and weeds are under stress or are larger.

Apply as a broadcast application after harvest of Asparagus spears for control of broadleaf weeds and new existing Asparagus tissues. Coverage is essential for good control.

#### **Adjuvant Requirements**

Applications shall be made in spray volumes sufficient to provide complete coverage of foliage. Use a minimum of 10 gallons of finished spray per acre for ground application and 5 gallons per acre for aerial application. A nonionic surfactant (NIS), methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient, or a methylated seed oil, or crop oil concentrate (COC)(petroleum or seed oil) at 1 to 2 v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the nonionic surfactant methylated seed oil or crop oil is allowed. Repeat application if necessary.

For specific mixing instructions, refer to the **Mixing and Loading Instructions** under the **PRODUCT INFORMATION** section.

#### **Restrictions**

- Do not apply more than 3.8 fl oz (0.06 pound active ingredient lb a.i.) per acre per season.
- Do not make applications less than 20 days apart.
- PHI is 5 days.

**Bushberry (subgroup 13-07B) including: Aronia Berry, Highbush Blueberry, Lowbush Blueberry, Buffalo Currant, Chilean Guava, Highbush Cranberry, Black Currant, Red**

**Currant, Elderberry, European Barberry, Gooseberry, Edible Honeysuckle, Huckleberry, Jostaberry, Juneberry (Saskatoon Berry), Lingonberry, Native Currant, Salal, Sea Buckthorn and cultivars, varieties, and/or hybrids of these**

**Post-emergent Weed Control**

Apply Up to 2.0 fl oz (0.031 lb ai) per acre.

LONGBOW EC applications will control susceptible emerged broadleaf weeds. Repeat applications may be necessary for weeds that emerge after a treatment. LONGBOW EC can be applied up to harvest.

**Equipment and Application**

Apply only by ground equipment such as boom sprayers, shielded or hooded sprayers, hand-held or high-volume wands or orchard guns. Use a minimum of 20 gallons finished spray solution per broadcast acre.

**Dormant Applications**

Apply LONGBOW EC as a broadcast application to the base of the trunk to control emerged and actively growing weeds during the dormant stage of the crop.

**Post-directed Applications for Broadleaf Weed Control**

Apply LONGBOW EC as a directed spray avoiding contact with the berry plant but directed at actively growing weeds. LONGBOW EC is a contact herbicide and coverage is essential for good weed control. Do not allow LONGBOW EC spray mist to come in contact with green stem tissue, desirable fruit, blooms or foliage. Newly planted bush berries should only be treated with shielded sprayers or hooded sprayers.

**LONGBOW EC Use Rates**

Apply up to 2 fl oz (0.031 lb a.i.) LONGBOW EC per broadcast acre. For best control, apply to seedling weeds in the 2 to 3-leaf stage. Use higher labeled rates of LONGBOW EC for larger weeds up to 6 leaves. Weeds greater than 6 leaves may be only partially controlled. See Table 3 for LONGBOW EC use rates and weeds controlled.

**Adjuvant Requirements**

A nonionic surfactant (NIS), methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient, or a methylated seed oil, or crop oil concentrate (COC)(petroleum or seed oil) at 1 to 2 v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the nonionic surfactant methylated seed oil or crop oil is allowed.

**Tank Mix**

LONGBOW EC may be mixed with other registered herbicides for broader spectrum weed control. When tank mixing with fertilizer solutions, be sure to first prepare a premixture of LONGBOW EC and clean water. See Mixing and Loading Instructions under the PRODUCT INFORMATION section of this label for specific mixing instructions. Refer to this and the other product's labels for mixing instructions, precautions, and restrictions. Follow the most restrictive instructions for each tank mix partner.

**Band Treatment Application**

For band treatment, apply the broadcast equivalent rate and volume per acre. To determine these:

|                          |   |                           |   |             |
|--------------------------|---|---------------------------|---|-------------|
| <u>Band Width inches</u> | x | Broadcast Rate Per Acre   | = | Band Rate   |
| Row Width inches         |   |                           |   |             |
| <u>Band Width inches</u> | x | Broadcast Volume Per Acre | = | Band Volume |
| Row Width inches         |   |                           |   |             |

**Precautions**

Extreme caution must be taken during applications when desirable fruit, foliage and/or blooms are present in order to avoid spotting or necrosis. Do not allow LONGBOW EC spray mist to come in contact with green stem tissue, desirable fruit, blooms or foliage.

For seedling or newly transplanted bushes, do not allow spray to contact green bark of trunk area. Use shielded sprayers only.

**Restrictions**

- Do not apply more than 2 fl oz (0.031 lb.ai) during the dormant season.
- Do not apply more than 6.1 fl oz per acre per season (0.096 lb ai) per acre per season

**CANEBERRY (subgroup 13-07A)** including: Blackberry, Loganberry, Black and Red Raspberry, Wild Raspberry, and cultivars, varieties, and/or hybrids of these

**Post-emergent Weed Control**

Apply 6.4 fl oz LONGBOW EC (0.1 lb ai) per broadcast acre as a directed spray when weeds and primocanes are approximately 6 inches tall.

Apply up to 2 fl oz (0.031 lb a.i.) LONGBOW EC per broadcast acre. For best results apply to actively growing weeds up to 4 inches tall or rosettes less than 3 inches across.

**Equipment and Application**

Apply only by ground equipment such as boom sprayers, shielded or hooded sprayers, hand-held or high-volume wands or orchard guns. Do not allow LONGBOW EC spray mist to come in contact with green stem tissue, desirable fruit, blooms or foliage. Do not apply when conditions favor drift or when wind is above 10 mph.

**Post-Directed Application for Primocane and Weed Control**

LONGBOW EC is a contact herbicide for directed application for the control of primocanes and weeds. Use a minimum of 20 gallons finished spray per broadcast acre at intervals of 14 to 21 days. Direct spray to the bottom 18 inches of the canes and to the soil 24 inches from each side of the plant row. Refer to weed control list in Table 3 for appropriate weed control information.

**Adjuvant Requirements**

An adjuvant is required. See Adjuvant Requirements below, under weed control.

**Post-Directed Application for Weed Control**

Apply LONGBOW EC to actively growing weeds. LONGBOW EC is a contact herbicide and coverage is essential for good weed control. Use a minimum of 20 gallons finished spray solution per acre.

**Band Treatment Application**

For band treatment, apply the broadcast equivalent rate and volume per acre. To determine these:

**Band Treatment Application**

For band treatment, apply the broadcast equivalent rate and volume per acre. To determine these:

|  |   |                           |   |             |
|--|---|---------------------------|---|-------------|
| <u>Band Width inches</u><br>Row Width inches | x | Broadcast Rate Per Acre   | = | Band Rate   |
|  |   |                           |   |             |
| <u>Band Width inches</u><br>Row Width inches | x | Broadcast Volume Per Acre | = | Band Volume |

Coverage is essential for good control.

**Adjuvant Requirements**

A nonionic surfactant (NIS), methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient, or a methylated seed oil, or crop oil concentrate (COC)(petroleum or seed oil) at 1 to 2 v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2

to 4 pounds per acre in addition to the nonionic surfactant methylated seed oil or crop oil is allowed.

LONGBOW EC may be mixed with other herbicides registered in caneberries for broader spectrum weed control.

LONGBOW EC should be the first product added to the spray tank water. See Mixing and Loading Instructions under the PRODUCT INFORMATION section of this label for specific mixing instructions. Refer to this and the other product's labels for mixing instructions, precautions, and restrictions. Follow the most restrictive instructions for each tank mix partner.

### **Precautions**

Caution must be taken during applications when desirable fruit, foliage and/or blooms are present in order to avoid spotting or necrosis. Do not allow LONGBOW EC spray mist to come in contact with green stem tissue, desirable fruit, blooms or foliage.

Newly planted caneberries should only be treated with shielded sprayers or hooded sprayers.

### **Restrictions**

- Do not apply more than 25.6 fl oz per acre per season (0.4 lb ai) per acre per season.
- Do not make applications less than 14 days apart.
- Preharvest Interval- Do not apply within 15 days of harvest

## Corn (Field, Seed, Silage, Popcorn, Sweet Corn – Processing and Fresh Market)

### Preplant Burndown

Up to 2.0 fl oz (0.031 lb a.i.) per acre

### Post-emergence (Broadcast)

Up to 1.0 fl oz ( 0.016 lb a.i.)per acre

Apply LONGBOW EC alone or as a tank mixture with other herbicides to emerged and actively growing weeds. Apply to corn in all tillage systems from prior to planting up to 14-leaf collar growth stage. When applying LONGBOW EC to corn greater than V8 stage, utilize drop nozzles aligned between the rows with directed application to reduce contact with the corn foliage and improve contact with the weeds. For optimum performance, make application to actively growing weeds up to 4 inches high and rosettes less than 3 inches across. Coverage is essential for good control.

### Broadcast Applications

Use LONGBOW EC Herbicide at 0.5 to 1.0 fl oz as a broadcast application using a minimum of 10 gallons per acre of spray volume by ground or 3 gallons per acre by air. Broadcast applications may be applied through V8 stage corn.

### Tank Mix

LONGBOW EC may be tank mixed with other corn herbicides to control weeds not listed on this label. Read and follow all manufacturers' label directions for the companion herbicides. When tank mixing LONGBOW EC with other labeled corn herbicides, use adjuvants as directed by the tank mix partner's label.

### LONGBOW EC plus Atrazine

LONGBOW EC may be tank mixed at a rate of 0.5 fl oz (0.008 lb a.i.) per acre with Atrazine 4L (16 fluid ounces per acre) or Atrazine 90DF (0.6 -1.6 pounds per acre) to control the following weeds.

#### When used as directed, LONGBOW EC + atrazine will provide control of listed weeds up to 4 inches tall.

|   |                          |                           |                   |
|---|--------------------------|---------------------------|-------------------|
| Amaranth, Palmer (not triazine resistant) | Copperleaf, hophornbeam  | Mallow, Venice            | Purslane, common  |
| Amaranth, spiny                           | Croton, wooly            | Morningglory spp.         | Sesbania, hemp    |
| Anoda, spurred                            | Devilsclaw               | Nightshade, Eastern black | Thistle, Russian  |
| Buckwheat, wild                           | Eveningprimrose, cutleaf | Nightshade, hairy         | Velvetleaf        |
| Buffalobur                                | Jimsonweed               | Pigweed, redroot          | Waterhemp, common |
| Carpetweed                                | Kochia *                 | Pigweed, smooth           | Waterhemp, tall   |
| Cocklebur                                 | Lambsquarters, common    | Potato, volunteer         | Sesbania, hemp    |

\* Kochia control up to 2 inches tall with LONGBOW EC + Atrazine + COC only. Refer to the Atrazine labels for additional weed listings and for higher use rates.

### LONGBOW EC plus Dicamba

LONGBOW EC at 0.5 fl oz (0.008 lb a.i.) per acre plus 0.25% v/v nonionic surfactant (2 pints per 100 gallons) can be tank mixed with dicamba herbicides (8 -16 fluid ounces per acre) for control of broadleaf weeds including the following:

**When used as directed, LONGBOW EC + dicamba will provide control of listed weeds up to 4 inches tall.**

|                   |                             |                          |                   |
|-------------------|-----------------------------|--------------------------|-------------------|
| Buckwheat, wild   | Morningglory, spp.          | Potato, volunteer        | Thistle, Russian  |
| Cocklebur, common | Nightshade, black           | Ragweed, common          | Velvetleaf        |
| Jimsonweed        | Pigweed, redroot            | Ragweed, giant           | Waterhemp, common |
| Kochia            | Pigweed, smooth             | Smartweed, PA (seedling) | Waterhemp, tall   |
| Lambsquarters     | Pigweed, triazine resistant | Sunflower, common        |                   |

Refer to the dicamba labels for additional weed listings and for higher use rates. Refer to the Tank Mixture Section for information on potential leaf injury.

**LONGBOW EC Plus Atrazine Plus Dicamba or 2,4-D**

For the control of additional or certain larger weeds up to 6 inches tall, Atrazine may be added to the tank mixtures of LONGBOW EC plus dicamba or LONGBOW EC plus 2,4-D (amine).

Add 2,4-D (amine) to the tank mix at 0.125 to 0.25 lb a.i. per acre or dicamba at 3 to 8 fluid ounces per acre. Higher rates of atrazine and dicamba herbicides are allowed, but do not exceed the specific label use rates allowed by these labels. Add a 0.25% v/v nonionic surfactant (2 pints per 100 gallons) to the tank mixture. Under very dry soil moisture conditions, the use of crop oil concentrate at 1% v/v (1 gallon per 100 gallon spray solution) may improve weed control. The use of crop oil concentrate may increase leaf speckling. Refer to the Tank Mixture section for information on potential leaf injury.

**For control of the following weeds up to 6 inches in height, or as specified, add dicamba at 3 to 8 ounces per acre to LONGBOW EC tank mixes with atrazine or to LONGBOW EC tank mixes with other products that allow the use of dicamba on their labels.**

|                                   |                                      |   |
|-----------------------------------|--------------------------------------|---|
| Amaranth, Palmer (up to 4 inches) | Nightshade, Eastern black            | Smartweeds, annual (seedling)           |
| Amaranth, Spiny (up to 4 inches)  | Nightshade, hairy                    | Sunflower, common (up to 4 inches tall) |
| Cocklebur, common                 | Pigweed, redroot                     | Velvetleaf (up to 24 inches)            |
| Kochia (up to 4 inches tall)      | Pigweed, smooth                      | Waterhemp, common                       |
| Lambsquarters, common             | Ragweed, common                      | Waterhemp, tall                         |
| Morningglory spp.                 | Ragweed, giant (up to 4 inches tall) |   |

**Adjuvant Requirements:**

Use a non-ionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution). Under dry conditions, the use of a crop oil concentrate (COC) at 1.0% v/v may improve weed control. The use of crop oil concentrate can increase leaf speckling and crop response on treated corn leaves.

**Post-emergence (Hooded Sprayer and Directed Applications)**

Up to 2.0 fl oz (0.031 lb a.i.) per acre

**Directed Spray Applications:**

Apply LONGBOW EC with drop nozzles between the rows to the target weeds and away from the whorl of the corn plant. Directed spray applications should be used when corn is V8 to V14 stage. Apply LONGBOW EC up to 2.0 fl oz (0.031 lb a.i.) per acre. Be aware that weeds growing in and under the dense canopies may not receive adequate spray coverage and may require the use of higher spray volumes for acceptable control. Use appropriate rates of adjuvants such as non-ionic surfactant (NIS), crop oil concentrate (COC), or methylated seed oil (MSO).

**Hooded Sprayer Applications:**

Apply LONGBOW EC with hooded sprayers to control labeled weeds between the rows of the crop. Refer to the Hooded Sprayer Applications section of this label for additional specific use directions.

**Harvest Aid:**

Apply 1.0 to 2.0 fl oz LONGBOW EC per acre, but not to exceed maximum labeled rates. Refer to the MAXIMUM ALLOWABLE LONGBOW EC USE RATE and the PREHARVEST INTERVAL Table for additional application information. If treatments of LONGBOW EC have been made to the crop earlier, that volume must be considered in determining the maximum use rate as a harvest aid treatment. Applications shall be made in spray volumes sufficient to provide complete coverage of foliage.

Use a minimum of 15 gallons of finished spray per acre for ground application and 5 gallons per acre for aerial application. A methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use methylated seed oil, or crop oil concentrate (COC) (petroleum or seed oil) at 1 to 2% v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the methylated seed oil or crop oil is allowed.

**Seed Corn Production:**

For seed production fields, apply LONGBOW EC using drop nozzles or other equipment to make a directed spray treatment. Avoid directing spray solution into the whorl.

Seed corn inbred lines have generally shown good tolerance to LONGBOW EC herbicide. However, not all inbred lines have been tested. Broadcast applications may result in spray being concentrated into the whorl of the plant that will increase leaf response. To minimize application into the whorl of the plants, drop nozzles or other type directed sprayers must be used to direct the spray to the targeted weeds.

**Sweet Corn Precaution:**

When applying LONGBOW EC to sweet corn; broadcast applications may result in spray being concentrated into the whorl of the plant that will increase leaf response. To minimize application into the whorl of the plants, drop nozzles or other type directed sprayers must be used to direct the spray to the targeted weeds.

Use only NIS as the spray adjuvant in sweet corn applications.

**Application Precautions:**

Leaf speckling can occur when LONGBOW EC is used with certain crop protection products and adjuvants. Refer to the Tank Mixtures and Adjuvants requirements sections under PRODUCT INFORMATION. **Bromoxynil mixtures and bentazon mixtures may cause significant crop response when in contact with crop foliage.**

**Crop Response**

The application of LONGBOW EC to corn may result in temporary crop response such as speckling or necrosis of the leaves. Grain yields will not be affected. Do not make applications when air temperatures are abnormally cool or humidity is high or if the corn foliage is wet from dew, rainfall or irrigation. **Users should be aware of these inherent risks and accept these risks prior to application of LONGBOW EC.**



For additional information regarding potential crop response, refer to the PRODUCT INFORMATION section of the LONGBOW EC label.

**Coverage is essential for satisfactory performance.**

**Application Precautions:**

- PHI: Harvest Aid applications: 3 days  
Post Emergent applications: Do not apply after 14 leaf collar stage
- Do not apply more than 2.0 fl oz (0.031 lb a.i.) per acre per season including all preplant, in-crop, and harvest aid applications.

## Cotton

### Removal of Failed Cotton Stands

Apply 1.0 to 1.6 fl oz LONGBOW EC (0.016 to 0.025 lb a.i.) per acre broadcast as a foliar spray over the top of the remaining cotton plants with sufficient spray volume to provide adequate coverage of the cotton plant, particularly the terminal area. Use higher rates on larger failed cotton. For best results do not exceed 3 leaf cotton. **Coverage is essential for good control.**

### Pre Plant Burndown

See instructions under the Pre Plant Burndown section of this label.

### Hooded Sprayer Applications

Apply LONGBOW EC with hooded sprayers to control labeled weeds between the rows of the crop. Refer to the Hooded Sprayer Applications section of this label for additional specific use directions.

### Post-directed and Lay-by Applications

LONGBOW EC is a contact herbicide for postemergence directed sprayer or hooded/shielded sprayer applications for the control of broadleaf weeds in cotton. Apply LONGBOW EC alone or as a tank mixture with other herbicides to emerged and actively growing weeds. For specific mixing instructions, refer to the Mixing and Loading Instructions under the PRODUCT INFORMATION section. Applications of LONGBOW EC or LONGBOW EC tank mixes must be made with directed sprayers or hooded sprayers to prevent contact of spray solution with the cotton plant. Do not allow spray solution to contact cotton foliage, green stem tissue, or blooms. Directed spray equipment must position nozzles a minimum 3 to 4 inches above the soil, with nozzles directed beneath the crop canopy. LONGBOW EC or LONGBOW EC tank mix applications shall be made to cotton that is a minimum of 6 inches in height. Applications to cotton at 5 to 6 nodes or less must be made with hooded or shielded sprayer equipment to completely avoid contact with cotton plants. Apply lay-by applications of LONGBOW EC or LONGBOW EC tank mixtures at later growth stages of cotton when cotton plants have achieved a height of 12 inches or more with sufficient bark development and height differential between crop bottom leaves and the soil. Spray solution shall be directed at the base of cotton plants for minimal contact with green stem tissue or foliage while maintaining maximum contact with broadleaf weeds that are at appropriate treatment size.

For optimum performance, make application to actively growing weeds up to 4 inches tall and rosettes less than 3 inches across. **Coverage is essential for good control.**

### Adjuvant Requirements

A nonionic surfactant (NIS), methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient, or a methylated seed oil, or crop oil concentrate (COC)(petroleum or

seed oil) at 1 to 2% v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the nonionic surfactant methylated seed oil or crop oil is allowed.

### **LONGBOW EC Use Rates and Weeds Controlled**

Apply up to 1.6 fl oz (0.025 lb ai/A) LONGBOW EC as a post-directed treatment using a directed sprayer a hooded sprayer or lay-by sprayer delivering a minimum finished spray volume of 10 gallons per acre. Do not apply more than 3.2 fl oz (0.05 lb.ai) LONGBOW EC per season by post-directed and lay-by applications. Refer to weed control list in Table 3 for appropriate weed control information.

For control of additional broadleaf weeds and grasses, LONGBOW EC may be tank mixed with other herbicides registered for cotton post-directed and/or lay-by applications. Refer to the other product's label for restrictions on tank mixing, and observe all label precautions, instructions and rotational cropping restrictions.

### **Managed Maturity Application for Cotton**

Apply LONGBOW EC as an aid to remove undesirable top growth and reduce unproductive terminal growth. Use alone or as a tank mixture with other cotton insecticides and herbicides. Read all product labels and follow all directions and precautions when tank mixing with this product.

### **Use Rates – Manage Maturity**

Apply LONGBOW EC as a broadcast spray at 0.25 fl oz per acre (0.004 lb ai per acre) to 0.5 fl oz per acre (0.008 lb ai per acre), targeting 0.375 fl oz per acre (0.006 lb ai per acre) in spray volume adequate to obtain upper canopy coverage of the plant foliage. In situations of extremely lush growth, apply up to 0.5 fl oz per acre (0.008 lb ai per acre). Make applications using a minimum of 10 gallons of finished spray per acre for ground application and a minimum of 5 gallons per acre by air. Good upper canopy coverage is essential for optimum performance.

### **Use a quality crop oil concentrate (COC) at the specified rate of 1% v/vTiming**

Apply LONGBOW EC when cotton is actively growing and the plants have 1% to 20% open bolls; with applications at 15% open bolls being optimum. When using the Cotman monitoring program, apply LONGBOW EC at NAWF5, plus 450 – 650 heat units. Avoid Managed Maturity treatments to fields, or areas of fields, that are stressed. Apply 0.25 to 0.5 fl oz (0.004 – 0.008 lb a.i. per acre)

### **Defoliation / Harvest Aid Application**

Apply LONGBOW EC as a harvest aid to defoliate and desiccate cotton and troublesome weeds that may be present at harvest. Apply LONGBOW EC alone or as a tank mixture with other cotton harvest aids.

Use a quality spray adjuvant e.g. nonionic surfactant (NIS) or crop oil concentrate (COC) at the specified rates. NIS is advised as an adjuvant during warmer periods with COC being the better choice for applications during cooler periods. Make application when 60 to 70 percent of the bolls are open, or according to the State Agricultural Extension Service guidelines in the use area.

Apply up to 1.6 fl oz LONGBOW EC (up to 0.025 lb ai per acre) in spray volume sufficient to provide complete coverage of cotton foliage. Use a minimum of 10 gallons of finished spray per acre for ground application and 5 gallons per acre for aerial application. **Coverage is essential for good defoliation.** Repeat application if necessary to remove remaining foliage or control regrowth. Do not apply more than 3.2 fl oz (0.05 lb a.i.) per acre total as a harvest aid. Dense

cotton canopy, large plant size, and environmental conditions not conducive to complete plant coverage may reduce initial application performance and increase the need for a second application.

Apply **LONGBOW EC** alone, as a tank mix, or as a sequential application alone or tank mixed with other registered cotton harvest aid products.

Refer to the other product's label for restrictions on tank mixing, and observe all label precautions, instructions and rotational cropping restrictions.

### **Restrictions:**

- Do not apply when conditions favor drift or when wind is above 10mph.
- Do not apply more than 7.9 fl oz (0.124 lb a.i.) per acre total for preplant, in-season weed control and harvest aid.
- Do not apply more than 3.2 fl oz (0.05 lb a.i.) per acre total for managed maturity and/or as a harvest aid.
- Do not apply within 7 days of harvest.

### **Dried shelled beans, peas; Crop Subgroup 6-C (except soybean) and flax; vegetable foliage of legume Group 7.**

#### **Preplant Burndown:**

Apply Up to 2.0 fl oz (0.031 lb a.i.) per acre. Refer to the preplant burn down section of this label.

#### **Harvest Aid Treatment:**

Apply **LONGBOW EC** Herbicide at 1.0 to 6.1 fl oz (0.016 to 0.096 lb a.i.) per acre as a harvest aid to dry beans and dry peas at maturity when 80 to 90% of seed pods are yellow or buck skin in color and only 30% of green leaves remain on the plant.

Apply to flax when 75% of the bolls have turned brown. Thorough coverage is essential for harvest aid and multiple applications may be needed. For optimum performance use 15 to 30 gallons per acre finished sprayed with a methylated seed oil (MSO) type adjuvant to ensure thorough coverage and retention for harvest aid.

#### **LONGBOW EC Use rates:**

Apply **LONGBOW EC** alone or as a tank mixture with other harvest aids. Apply **LONGBOW EC** at 1.0 to 6.1 fl oz (0.016 to 0.096 pounds active ingredient) per acre, but not to exceed maximum labeled rates. Refer to the **MAXIMUM APPLICATION RATE TABLE** for additional application information.

Applications shall be made in spray volumes sufficient to provide complete coverage of foliage. Use a minimum of 15 gallons of finished spray per acre for ground application and 5 gallons per acre for aerial application. A methylated seed oil (MSO) or crop oil concentrate (COC) is required at 1 to 2 v/v (1 to 2 gallons per 100 gallons of spray solution). The addition of a high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the methylated seed oil or crop oil may enhance performance. If spraying dry beans before full maturity and pods are not all mature and turning color, a repeat application may be necessary.

#### **Note**

If applied as a tank mixture, refer to the other product's label for restrictions on tank mixing, and observe all label precautions, instructions and rotational cropping restrictions.

## Restrictions

- Do not apply more than 6.1 fl oz (0.096 lb a.i.) per season.
- PHI is 0 days

## Fallow Systems

### Postemergence Weed Control

Apply LONGBOW EC at up to 2.0 fl oz (0.031 lb a.i.) per acre by ground or air application alone or with other herbicides in the fallow period prior to planting or the emergence of any crop listed on this label to control or suppress weeds. For optimum performance, make applications to actively growing weeds up to 4 inches high or rosettes less than 3 inches across. **Coverage is essential for good weed control.**

LONGBOW EC may be utilized in Fallow Cropping Systems for chemical weed control to aid in moisture conservation between cropping periods.

### Adjuvant Requirements

A nonionic surfactant, crop oil concentrate or methylated seed oil is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient or a petroleum or oil seed based crop oil concentrate (COC) at 1.0 to 2 % v/v (1.0 to 2.0 gallons per 100 gallons of spray solution) or a methylated seed oil (MSO). A high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons) or ammonium sulfate at 2 to 4 pounds per acre in addition to the selected NIS, MSO or COC is allowed.

Optimum broad-spectrum control of annual and perennial weeds requires a tank mix with a broad-spectrum burndown herbicide such as glyphosate, glufosinate or paraquat. Refer to Table 3 for proper use rate for weed spectrum. For specific mixing instructions, refer to the Mixing and Loading Instructions under the PRODUCT INFORMATION section. For crop planting information following fallow treatments, refer to the Preplant Burndown section of this label for planting interval instructions.

### Tank Mix

For all products used in tank mixes, refer to the specific product labels for all restrictions on tank mixing and observe all label precautions, instructions and rotational cropping restrictions

## Fruit, small vine climbing - except fuzzy kiwifruit (subgroup 13-07F)

### Postemerge Weed Control

LONGBOW EC may be applied at up to 2.0 fl oz (0.031 lb a.i.) per acre. for postemergence weed control or for sucker control.

### Weed Control

Apply LONGBOW EC alone or as a tank mixture with other herbicides as a postemergence directed spray treatment or as a hooded spray treatment to control emerged and actively growing weeds Apply LONGBOW EC to middles (between rows of plants) and in strips (in row of plants). Apply LONGBOW EC at any time during the season (see precautions). LONGBOW EC may be mixed with other herbicides that have pre-emergence or post-emergence activity. Any pre-emergence activity must rely on activity from other herbicides as directed on their labels. Herbicides such as glyphosate may be tank mixed with LONGBOW EC for broader spectrum weed control. If LONGBOW EC is used in a tank mixture, observe the other product's label for restrictions, precautions and rotational cropping instructions.

### Sucker Management

LONGBOW EC is effective as an aid in the management of undesirable sucker growth from the base of vine trunks or root sprouts. Suckers and other undesirable growth must be treated when the tissue is young and not mature and/or hardened off. Care must be taken not to allow spray mist to contact desirable fruit or foliage or green stem tissue (see precautions). Application of LONGBOW EC with other sucker control herbicides is allowed.

### **Hooded Sprayer Applications**

Apply LONGBOW EC with hooded sprayers to control labeled weeds between the rows of the crop. Refer to the **Hooded Sprayer Applications** section of this label for additional specific use directions.

### **Equipment and Application**

Coverage is essential for good control. Use a spray volume adequate to obtain thorough coverage with a minimum of 10 gallons of finished spray per acre. Apply only with ground equipment. Apply LONGBOW EC with hooded sprayers, boom equipment, shielded sprayers, hand-held and high-volume wands or orchard guns. Always add LONGBOW EC to the spray tank first. See "Mixing and Loading Instructions" under PRODUCT INFORMATION.

### **Adjuvant Requirements**

Control is enhanced with the addition of a nonionic surfactant (NIS) or crop oil concentrate (COC).

Use a quality nonionic surfactant (NIS) containing at least 80% active at 0.25% v/v (2 pints NIS per 100 gallons) or a crop oil concentrate (COC) at 1% v/v (one gallon COC per 100 gallons), or a methylated seed oil (MSO). The use of a high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v or ammonium sulfate (AMS) used at 2 to 4 pounds per acre in addition to the NIS, or MSO or COC is allowed.

**Application Precautions: Extreme caution must be used during applications when desirable fruit or foliage is present in order to avoid fruit spotting or leaf necrosis.**

### **Restrictions**

- Do not allow LONGBOW EC spray mist to come in contact with desirable fruit, green stem tissue, foliage or blooms.
- Do not use on seedling or newly transplanted vines do not allow spray to contact green bark of trunk area.
- Do not apply within 3 days of harvest.
- Do not apply more than 2.0 fl oz (0.031 lb a.i.) per acre per application (including preplant site preparation treatments).
- Do not apply more than 7.9 fl oz (0.124 lb a.i.) per acre per season.
- Do not make applications less than 14 days apart.

**Fruit Tree, Tree Nut and Other Crops** (Citrus Fruits including Calamondin, Citrus Citron, Chironja, Tangelo, Tangor, Grapefruit, Kumquat, Lemon, Lime, Mandarin (Tangerine), Orange (sour), Orange (Sweet), Pummelo, Satsuma and Mandarin; Pome Fruits: including Apple, Crabapple, Loquat, Mayhaw, Pear, Pear (Oriental) and Quince; Stone Fruits: including Apricot, Cherry (Sweet), Cherry (Tart), Nectarine, Peach, Plum, Plum (Chickasaw), Plum (Damson), Plum (Japanese), Prune and Plumcot Tree Nuts: including Almond, Beech Nut, Brazil Nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (Hazelnut), Hickory Nut, Macadamia Nut (Bush Nut), Pecan, Pistachio and Walnut (Black and English); Tropical fruit: including Papaya, Avocado, Black Sapote, Canistel, Mamey Sapote, Mango, Sapodilla, Star apple, Guava, Feijoa, Jaboticaba, Wax jambu, Starfruit, Passionfruit, Acerola, Lychee, Longan, Spanish lime, Rambutan, Pulasan, Sugar apple, Atemoya, Custard apple, Cherimoya, Llama, Soursop, and Biriba; Other Crops: including Banana, Cacao, Coconut, Coffee, Date, Fig, Guayule, Indian Mulberry, Olive, Palm Heart, Persimmon, Pomegranate, Tea, and Vanilla

Apply up to 2.0 fl oz/A (0.031 lb a.i.) per acre

## **PRODUCTION SYSTEMS**

Different production systems dictate different application techniques. Skirted trees are those allowing the lower branches of the trees to grow to the ground line. Non-skirted trees are grown in production systems where branches are pruned allowing access to the trunk area.

### **Equipment and Application Skirted Orchards and Groves**

Hooded sprayers are required for LONGBOW EC applications in skirted trees. Refer to the HOODED SPRAYER APPLICATIONS section of this label.

### **Non-Skirted Orchards and Groves**

Apply only by ground equipment such as boom sprayers, shielded or hooded sprayers, hand-held or high-volume wands or orchard guns. Use a minimum of 20 gallons finished spray solution per broadcast acre.

### **Weed Control**

Apply LONGBOW EC alone or as a tank mix with other registered herbicides to actively growing weeds. LONGBOW EC is a contact herbicide and coverage is essential for good weed control. Use a minimum of 20 gallons finished spray solution per broadcast acre.

Do not allow LONGBOW EC spray solution to contact green stem tissue, leaves, fruit or blooms of trees.

### **LONGBOW EC Application Rates**

Apply LONGBOW EC up to 2 fl oz (0.031 lb a.i.) per acre for postemergence control of susceptible broadleaf weeds. Refer to weed control list in Table 3 for appropriate weed control information. For best control, apply to seedling weeds in the 2 to 3-leaf stage. For larger weeds up to 6 leaves, use higher labeled rates of LONGBOW EC. Weeds greater than 6 leaves may be only partially controlled.

### **Adjuvant Requirements**

Control is enhanced with the addition of a nonionic surfactant (NIS) or crop oil concentrate (COC). Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints NIS per 100 gallons) or a crop oil concentrate at 1% v/v (one gallon COC per 100 gallons). LONGBOW EC may also be applied with labeled rates of MSO or silicone adjuvants.

### **Tank Mix**

LONGBOW EC may be mixed with other herbicides that have preemergence or postemergence activity. LONGBOW EC only controls emerged vegetation. Any preemergence activity must rely on activity from registered preemergence herbicides mixed with LONGBOW EC. Contact herbicides e.g. glyphosate, glufosinate, and paraquat may be tank mixed with LONGBOW EC for broader spectrum weed control.

See Mixing and Loading Instructions under the PRODUCT INFORMATION section of this label for specific mixing instructions. Refer to this and the other product's labels for mixing instructions, precautions, and restrictions. Follow the most restrictive instructions for each tank mix partner.

### **Sucker Management**

LONGBOW EC is effective as an aid in the management of undesirable sucker growth from the base of the trunks or root sprouts. Apply LONGBOW EC at 2.0 fl oz (0.031 lb a.i.) per acre. Suckers and other undesirable growth must be treated when the tissue is young and not mature and/or hardened off. Care must be taken not to allow spray mist to contact desirable fruit, foliage

or green stem tissue (see Precautions).

### **Adjuvant Requirements**

Refer to adjuvant section of this label.

### **Chemical Mowing**

Apply LONGBOW EC alone or in tank mixtures with other herbicides in chemical mowing practices for orchard vegetation management.

### **Hooded Sprayer Application**

Apply LONGBOW EC with hooded sprayers to control labeled weeds between the rows of the crop. Refer to the **Hooded Sprayer Applications** section of this label for additional specific use directions.

### **Precautions**

Extreme caution must be used during applications when desirable fruit and/or foliage are present in order to avoid fruit spotting and/or leaf necrosis. Do not allow spray mist of LONGBOW EC to come in contact with green stem tissue, foliage, blooms or desirable fruit.

On seedling or newly transplanted trees do not allow spray to contact green bark of trunk area. For new seedlings up to 2 year old trees, the trunk base should be wrapped to help prevent chemical contact with the bark.

### **Tank Mixture**

If LONGBOW EC is used in a tank mixture, observe the other product's label for restrictions, precautions, and rotational cropping instructions.

**Pre-Harvest Interval-** Tropical fruit PHI is 0 days; all other Tree fruit PHI is 3 days.

### **Restrictions:**

- Do not make applications with air- blast sprayers.
- Do not make applications less than 14 days apart.
- Do not apply more than 2.0 fl oz (0.031 lb a.i.) per acre per application and 7.9 fl oz (0.124 lb a.i.) per acre per season, including preplant site preparation.

### **Grasses: (Forage, Fodder, Hay, Seed and Sod)**

#### **Postemerge Weed Control**

Apply LONGBOW EC alone or in combination with other registered pesticides for the control of weeds in rangeland, pastures, hay, grasses grown for hay or silage and grass seed production and grass grown in Conservation Reserve Programs (CRP). Note that CRP usage must be in compliance with Federal, State, and local use guidelines. Apply at up to 2.0 fl oz (0.031 lb a.i.) per acre

Apply LONGBOW EC at use rates up to 2.0 fl oz (0.031 lb a.i.) per broadcast acre. For optimum results, weeds should be treated when small. Applications shall be made with ground equipment delivering a minimum of 10 gallons of finished spray per acre or aerial delivering a minimum of 3 gal/acre of finished spray. Adjust sprayers to provide optimum coverage of the target weeds. Refer to weed control list in Table 3 for appropriate weed control information.

### **Adjuvant Requirements**

Control is enhanced with the addition of a nonionic surfactant (NIS) or crop oil concentrate (COC). Use a quality nonionic surfactant (NIS) containing at least 80% active at 0.25% v/v (2 pints NIS per 100 gallons) or a crop oil concentrate (COC) at 1% v/v (one gallon COC per 100 gallons), or a methylated seed oil (MSO). The use of a high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v or ammonium sulfate (AMS) used at 2 to 4 pounds per acre in addition to the NIS, or MSO or COC is allowed.

When LONGBOW EC is applied alone, grazing and hay operations may proceed with no restrictions.

### **Tank Mix**

LONGBOW EC may be tank mixed with other labeled herbicides to control weeds not listed on this label. Read and follow all manufacturers' label directions for the companion herbicide.

For tank mixture applications, refer to the use directions and restrictions on the labels of the mixture products.

### **Restrictions**

- Do not make applications less than 7 days apart.
- Do not apply more than 5.9 fl oz (0.093 lb a.i.) per acre per season.
- Do not make more than three applications per season.

## **HOPS**

### **Post-Directed Application for Sucker Management.**

LONGBOW EC Herbicide is a contact herbicide for directed spray application to the basal portion of the hop plant for the management of sucker growth. Apply LONGBOW EC Herbicide at 2.0 fl oz (0.031 lb a.i.) per acre per application in a minimum of 20 gallons of spray solution by boom-type ground application equipment only to the basal portion of the hop plant (approximately the lower 1.5 feet) and to the sucker mat which extends from the base of the plant to approximately 1.5 to 2 feet into the row.

An alternate row treatment program may be followed to avoid the removal of excessive photosynthetic capacity from the crown area by treating alternate rows on different days. Applications timing and techniques may vary from region to region. Please consult local university extension personnel for local management practices.

### **Post emergent Control of Broadleaf Weeds**

Apply LONGBOW EC Herbicide using shielded sprayers or hooded sprayers to control emerged and actively growing broadleaf weeds within or between the rows of the crop. Refer to Table 3 for appropriate weed control information.

### **Adjuvant Requirements**

Coverage is essential to obtain good basal growth management. Use a nonionic surfactant (NIS) having at least 80 percent active ingredient at 0.25 % v/v (2 pints of NIS per 100 gallons of spray volume) or a quality crop oil concentrate (COC) at labeled rates.

If LONGBOW EC Herbicide is used in a tank mixture, refer to the other product labels for all restrictions on tank mixing and observe all label precautions, instructions and rotational cropping restrictions.

For band treatment, apply the broadcast equivalent rate and volume per acre. To determine these:



|  |   |                           |   |             |
|--|---|---------------------------|---|-------------|
| $\frac{\text{Band Width inches}}{\text{Row Width inches}}$ | x | Broadcast Rate Per Acre   | = | Band Rate   |
|  |   |                           |   |             |
| $\frac{\text{Band Width inches}}{\text{Row Width inches}}$ | x | Broadcast Volume Per Acre | = | Band Volume |

### Application Precautions

Extreme caution must be taken during application to avoid upward drift of the spray solution and contact with the highly susceptible new growth. Avoid applications until newly trained vines have developed sufficient barking to avoid damage to the stem and are high enough up the string to avoid contact with the apical bud.

#### Restrictions:

- Do not apply within 7 days of harvest.
- Do not apply LONGBOW EC Herbicide using air blast or air assisted sprayers.
- Do not apply through any type of irrigation system.
- Do not apply more than 7.6 fl oz (0.12 lb a.i.) per acre per season.
- Retreatment interval is 14 days.

## LOW GROWING BERRY Subgroup 13-07G

### Postemergence Weed Control

LONGBOW EC Herbicide applications will control susceptible emerged broadleaf weeds. Repeat applications may be necessary for weeds that emerge after an LONGBOW EC Herbicide treatment.

### Equipment and Application

Apply only by ground equipment such as boom sprayers, shielded or hooded sprayers, hand-held or high-volume wands or orchard guns. Use a minimum of 20 gallons finished spray solution per broadcast acre.

### Dormant Applications

Apply LONGBOW EC Herbicide as a broadcast application to the base of the trunk to control emerged and actively growing weeds during the dormant stage of the crop.

### Post-directed Applications for Broadleaf Weed Control

Apply LONGBOW EC Herbicide as a directed spray avoiding contact with the berry plant but directed at actively growing weeds. LONGBOW EC Herbicide is a contact herbicide and coverage is essential for good weed control. Do not allow LONGBOW EC Herbicide spray mist to come in contact with green stem tissue, desirable fruit, blooms or foliage. Newly planted bush berries should only be treated with shielded sprayers or hooded sprayers.

### LONGBOW EC Herbicide Use Rates

Apply up to 2 fl oz (0.031 lb a.i.) LONGBOW EC Herbicide per broadcast acre. For best control, apply to seedling weeds in the 2 to 3-leaf stage. Use higher labeled rates of LONGBOW EC Herbicide for larger weeds up to 6 leaves. Weeds greater than 6 leaves may be only partially controlled. See Table 3 for LONGBOW EC Herbicide use rates and weeds controlled.

### Adjuvant Requirements

A nonionic surfactant (NIS), methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient, or a methylated seed oil, or crop oil concentrate (COC)(petroleum or

seed oil) at 1 to 2 v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the nonionic surfactant methylated seed oil or crop oil is allowed.

LONGBOW EC Herbicide may be mixed with other registered herbicides for broader spectrum weed control. When tank mixing with fertilizer solutions, be sure to prepare an LONGBOW EC Herbicide premixture of LONGBOW EC Herbicide and clean water.

See Mixing and Loading Instructions under the PRODUCT INFORMATION section of this label for specific mixing instructions. Refer to this and the other product's labels for mixing instructions, precautions, and restrictions. Follow the most restrictive instructions for each tank mix partner.

**Precautions**

Extreme caution must be taken during applications when desirable fruit, foliage and/or blooms are present in order to avoid spotting or necrosis. Do not allow LONGBOW EC Herbicide spray mist to come in contact with green stem tissue, desirable fruit, blooms or foliage.

For seedling or newly transplanted bushes, do not allow spray to contact green bark of trunk area. Use shielded sprayers only.

**Band Treatment Application**

For band treatment, apply the broadcast equivalent rate and volume per acre. To determine these:

|  |   |                           |   |             |
|--|---|---------------------------|---|-------------|
| <u>Band Width inches</u><br>Row Width inches | x | Broadcast Rate Per Acre   | = | Band Rate   |
| <u>Band Width inches</u><br>Row Width inches | x | Broadcast Volume Per Acre | = | Band Volume |

**Restrictions:**

- Do not apply more than 2 fl oz (0.031 lb ai) during the dormant season.
- Do not apply more than 6.15 oz per acre per season (0.096 lb a.i.) per acre per season.
- Preharvest interval is 0 days

**MINT**

**Broadcast**

Apply LONGBOW EC as a broadcast application before Mint break dormancy for control of existing broadleaf weeds. Apply one application of LONGBOW EC at 0.5 to 1.92 fl oz (0.008 to 0.03 lb a.i.) per acre. Use higher rates when weeds are under stress or are larger. Complete coverage is necessary for good control.

**Adjuvant Requirements**

Applications shall be made in spray volumes sufficient to provide complete coverage of foliage. Use a minimum of 10 gallons of finished spray per acre for ground application and 5 gallons per acre for aerial application. A nonionic surfactant (NIS), methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient, or a methylated seed oil, or crop oil concentrate (COC)(petroleum or seed oil) at 1 to 2 v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the nonionic surfactant methylated seed oil or crop oil is allowed. Repeat application if necessary. For specific mixing instructions, refer to the Mixing and Loading

Instructions under the PRODUCT INFORMATION section.

**Restrictions:**

- Do not apply to actively growing crop.
- Do not apply more than 1.92 fl oz (0.03 lb a.i.) of LONGBOW EC per acre per season.
- Do not apply within 5 days of harvest.

**PEANUT**

**Post emerge Weed Control**

Apply up to 2.0 fl oz (0.031 lb a.i.) per acre. LONGBOW EC may be used alone or as a tank mixture with other herbicides as a postemergence treatment or as a hooded/directed spray treatment to control emerged and actively growing weeds. Apply hooded/directed applications of LONGBOW EC to middles (between rows of plants) and in strips (in row of plants). Apply LONGBOW EC at any time during the season (see precautions). LONGBOW EC may be mixed with other herbicides that have pre-emergence or post-emergence activity. Any pre-emergence activity must rely on activity from other herbicides as directed on their labels. Herbicides such as glyphosate may be tank mixed with LONGBOW EC for broader spectrum weed control. If LONGBOW EC is used in a tank mixture, observe the other product's label for restrictions, precautions and rotational cropping instructions.

**Harvest Aid Application**

Apply LONGBOW EC up to 2.0 fl oz (0.031 lb a.i.) per acre as a harvest aid to defoliate and desiccate troublesome weeds that may be present at harvest. Apply LONGBOW EC alone or as a tank mixture with other peanut harvest aids.

**Adjuvant Requirements**

Control is enhanced with the addition of a nonionic surfactant (NIS) or crop oil concentrate (COC). Use a quality nonionic surfactant (NIS) containing at least 80% active at 0.25% v/v (2 pints NIS per 100 gallons) or a crop oil concentrate (COC) at 1% v/v (one gallon COC per 100 gallons), or a methylated seed oil (MSO). The use of a high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v or ammonium sulfate (AMS) used at 2 to 4 pounds per acre in addition to the NIS, or MSO or COC is allowed. Complete coverage is necessary for goo control.

**Crop Rotation Restriction:**

After an application of this product to peanuts, you may only rotate the field to a carfentrazone-ethyl registered crop.

**Restrictions:**

- Do not apply more than 6.1 fl oz (0.096 pounds active ingredient) per acre per season.
- Do not apply more than 2.0 fl oz (0.031 lb a.i.) per acre per season as a harvest aid treatment.
- Do not apply more than one harvest aid treatment per season.
- Do not feed immature peanut plant or peanut hay to livestock
- Do not apply within 7 days of harvest.

**RICE: (Southern Use Only)**

Apply LONGBOW EC alone or as a tank mixture with other rice herbicides to emerged and actively growing weeds. Apply LONGBOW EC with either ground or aerial spray equipment. Do not apply when conditions favor drift.

To control weeds not listed on this label, LONGBOW EC may be tank mixed with other herbicides registered for use on rice. For specific mixing instructions, refer to the Mixing and Loading Instructions under the PRODUCT INFORMATION section. Refer to the other product's label for restrictions on tank mixing, and observe all label precautions, instructions, and rotational cropping restrictions.

### **Postemergence Pre-flood Applications to Dry Seeded Rice**

Apply LONGBOW EC at 1.25 to 3.2 fl oz (0.0195 to 0.05 lb a.i.) per acre. Use a minimum of 10 gallons of finished spray per acre for ground application equipment, and a minimum of 3 gallons per acre of finished spray for aerial equipment. For optimum results, apply LONGBOW EC to weeds up to 4 inches tall. Use a quality nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient. For more active treatments, use a Crop Oil Concentrate (COC) at 0.5 to 1.0% v/v (one half to one gallon per 100 gallons). Apply when the rice is at the 2 leaf stage or larger, but prior to flooding. Some leaf speckling may occur. Once field is flooded, water must be held for at least 23 days following treatment before release. Do not apply within 60 days of harvest once field is flooded.

Apply LONGBOW EC alone or as a tank mixture with other rice herbicides to emerged and actively growing weeds. Apply LONGBOW EC with either ground or aerial spray equipment. Do not apply when conditions favor drift.

To control weeds not listed on this label, LONGBOW EC may be tank mixed with other herbicides registered for use on rice. For specific mixing instructions, refer to the Mixing and Loading Instructions under the PRODUCT INFORMATION section. Refer to the other product's label for restrictions on tank mixing, and observe all label precautions, instructions, and rotational cropping restrictions.

When used as directed LONGBOW EC will provide Control of the following weeds up to 4 inches tall:

Cocklebur, common Morningglory, spp.; Copperleaf, hophornbeam; Pigweed spp.; Dayflower, spreading; Purslane, common; Groundcherry, cutleaf; Redweed; Hyssop, water Sesbania, hemp; Jointvetch, Indian; Smartweed, PA (seedling); Jointvetch, northern

Suppression of listed weeds: Alligatorweed; Flatsedge, rice; Ducksalad; Redstem; Eclipta; Texasweed

### **Tank Mix**

For control of weeds listed as suppressed or not listed on this label, apply LONGBOW EC following a preemergence grass herbicide or tank mix with other rice herbicides for broad spectrum weed control. Use tank mix applications when rice is well established and in the appropriate stage of growth for treatment with LONGBOW EC and the tank mix partner. For optimum results, weed species should also be in the proper stage of growth as specified on the LONGBOW EC and tank mix partner label. Read and follow all manufacturers' label directions for the companion herbicide except for specific directions on this label. Do not add a surfactant or crop oil concentrate when tank mixing herbicides formulated as emulsifiable concentrates unless required by the tank mix partners label. For other herbicide tank mix partners that are not Emulsifiable concentrates refer to their label for specific adjuvants. Observe all applicable directions, restrictions and precautions on the partner herbicide labels.

### **Post Flood Applications to Exposed Weeds**

For post flood applications apply LONGBOW EC to rice and weeds after the establishment of the permanent flood and when 80% of the foliage of the weeds are exposed. Apply LONGBOW EC at 1.6 to 6.4 fl oz per acre (0.025 to 0.10 lb a.i.) per acre to actively growing weeds. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient. For more active treatments, use a Crop Oil Concentrate (COC) at 1.0% v/v (one gallon

per 100 gallons. Apply when the rice is at the 2-leaf stage or later. Use a minimum of 10 gallons of finished spray per acre for ground application equipment and a minimum of 3 gallons of finished spray per acre for aerial application equipment. For optimum results, make applications to small rather than larger weeds. If water level has been lowered to allow this treatment, it should be returned to normal levels 24 hours following treatment. Users of LONGBOW EC herbicide must hold the water on the rice fields for 23 days following treatment.

#### **Harvest Aid Application:**

LONGBOW EC is effective as a harvest aid to defoliate and desiccate troublesome weeds that may be present at harvest. Apply LONGBOW EC alone or as a tank mixture with other rice harvest aids e.g. hemp sesbania, Indian and northern jointvetch, morningglories, and pigweeds.. Use up 1.25 to 1.6 fl oz (0.0195 to 0.025 lb a.i.) per acre

Harvest Aid Restriction: not permitted in California

#### **Restriction:**

- Do not apply when conditions favor drift or when wind is above 10 mph.
- Pre-flood treatment, once field is flooded, water must be held for at least 23 days following treatment before release.
- Do not apply more than 8.8 fl oz (0.138 lb a.i.) per acre per season including fallow/preplant burndown and other labeled crop applications.
- Do not apply more than 1.47 fl oz (0.023 lb a.i.) per acre as a harvest aid.
- After an application of this product to rice, you may only rotate the field to a carfentrazone-ethyl registered crop.

#### **RICE (LONGBOW EC For Rice Grown in California)**

Apply LONGBOW EC alone or as a tank mixture with other rice herbicides to emerged and actively growing weeds. Applications shall be made by ground equipment only using a minimum finished spray volume of 10 gallons of spray per acre.

To control weeds not listed on this label, LONGBOW EC may be tank mixed with other herbicides registered for use on rice. Refer to the other product's label for restrictions on tank mixing, and observe all label precautions, instructions, and restrictions.

#### **Early Post Seeding Applications to Submerged Weeds**

Apply LONGBOW EC at 12 fl oz (0.19 pounds active ingredient) per acre. Evenly distribute the spray solution over the flooded rice. The floodwater must be 3 to 6 inches deep. Apply at 1.5 leaf stage of rice. Earlier applications may cause unacceptable crop response. Rice must be well rooted and actively growing at the time of application. Hold the floodwater at a static depth for at least five days after application of LONGBOW EC. Once field is flooded, water must be held for at least 23 days following treatment before release.

When used as directed LONGBOW EC will provide control of listed weeds at the 2 leaf stage or less. Arrowhead, California; Ammannia, purple (suppression only); Ammannia, redstem (suppression only); Bulrush, ricefield; Umbrellaplant, smallflower (suppression only)

#### **Tank Mixtures**

LONGBOW EC may be tank mixed with other herbicides to control weeds not listed on this label. Read and follow all manufacturers' label directions for the companion herbicide except for specific directions on this label. Apply LONGBOW EC before, after, or with an application of Londax®, Ordram® and Bolero® herbicides. Observe all applicable directions, restrictions (including water holding

requirements) and precautions on the Londax, Ordram and Bolero labels.  
Do not apply LONGBOW EC as a tank mixture with Regiment.

### **Foliar Applications to Emerged Weeds Above the Water Surface**

Apply up to 6.4 fl oz LONGBOW EC (0.10 lb a.i.) per acre to the foliage of exposed weeds. At least 80% of the weed foliage must be exposed before spraying LONGBOW EC. For optimum results, apply to actively growing weeds 20 to 45 days postseeding or the earliest practical opportunity to spray. Weed control is enhanced with greater weed exposure. If the field was drained at application, reflood twenty-four hours after application to the normal flood depth.

**When used as directed LONGBOW EC will provide control or suppression of the following weeds.** Bulrush, ricefield; Arrowhead, California; Ammannia, purple (suppression only); Ammannia, redstem (suppression only); Umbrellaplant, smallflower (suppression only);

Crop Response

**Some temporary leaf speckling may occur shortly after application.**

### **Tank Mix**

LONGBOW EC may be tank mixed with other herbicides to control weeds not listed on this label. LONGBOW EC may be tank mixed with propanil-containing herbicides, Londax®, Bolero®, or Whip® herbicides. Not all combinations of LONGBOW EC and other formulated herbicides have been tested. The EC formulations, nonionic and silicone based surfactants and crop oil concentrates, when mixed with LONGBOW EC will increase leaf speckling on the rice leaves. These tank mixtures should be tested on a small portion of the field to ensure crop safety prior to general use.

### **Restriction:**

- After an application of this product to rice, you may only rotate the field to a carfentrazone-ethyl registered crop.
- Do not apply by air.
- Do not apply when conditions favoring drift exist.
- Pre-flood treatment, once field is flooded, water must be held for at least 23 days following treatment before release.
- Do not apply more than 12.0 fl oz (0.19 pounds active ingredient) per single application.
- Do not apply more than 19.2 fl oz (0.3 lb a.i.) per acre per season including fallow, preplant, burndown, and labeled crop applications.
- Do not release water for at least 23 days following a Post Flood treatment in the water.
- Do not apply within 1/2 mile of sensitive crops.

## **RICE, WILD: WILD RICE GROWN IN CULTIVATED FIELDS WHERE THE WATER DISCHARGE / RELEASE CAN BE CONTROLLED.**

Apply LONGBOW EC alone or as a tank mixture with other rice herbicides to emerged and actively growing weeds. Wild rice should be well rooted and vigorously growing at the time of application. Earlier applications may cause unacceptable crop response. Applications shall be made by ground equipment using a minimum finished spray volume of 10 gallons per acre.

Apply LONGBOW EC to weeds at the rate of 6.4 to 12.0 fl oz (0.1 to 0.19 pound active) per acre to the foliage of exposed weeds above the water surface. Make applications after the floating leaf stage through tillering. The water in paddies may be lowered if practical. Smaller weeds with more leaf area exposed will give better control. If water is lowered for application, it may be re-flooded to normal depths 24 hours after the application.

When used as directed LONGBOW EC will provide control or suppression of the following weeds: Ammannia, purple (Suppression only); Ammannia, redstem (Suppression only); Arrowhead, California; Bulrush, ricefield; Burrweed, giant (Suppression only); Umbrellaplant, smallflower (Suppression only); Waterplantain, common (Suppression only)

### **Crop Response**

Some temporary leaf specking may occur following application.

### **Tank Mix**

LONGBOW EC may be tank mixed with other herbicides to control weeds not listed on this label. Not all combinations of LONGBOW EC and other formulated herbicides and adjuvants have been tested. In general, EC formulations, nonionic and silicone based surfactants, and crop oil concentrates, will increase leaf speckling on the wild rice leaves. These tank mixes should be tested on a small portion of the field to ensure crop safety prior to general use.

### **Precautions**

Wet leaf surfaces at the time of application can cause unacceptable injury.

### **Restrictions**

- After an application of this product to wild rice, you may only rotate the field to a carfentrazone-ethyl registered crop.
- Do not apply when conditions favoring drift exist.
- Do not apply when winds exceed 10 mph.
- Do not apply more than 12.0 fl oz (0.19 pounds active ingredient) per single application.
- Do not apply more than 19.2 fl oz (0.3 pound active ingredient) per acre per season, including fallow/preplant, burndown, and labeled crop applications.
- Do not apply during the floating leaf stage when exposed wild rice leaves are most susceptible to injury.
- Do not apply to wild rice when there is heavy dew on the leaves or under high humidity conditions.
- Do not release flood water off wild rice field(s) for a minimum of 23 days after application of this product.
- Do not apply during the floating leaf stage when exposed wild rice leaves are most susceptible to injury.
- Do not apply within 0.5 mile of sensitive crops (for California wild rice).
- Do not apply to wild rice by air in California
- Do not release flood water off wild rice field(s) for a minimum of 23 days after application of this

product in California

## **SMALL GRAINS**

### **Timing and method of application:**

LONGBOW EC Herbicide may be applied preplant (up to 1 day before seeding), postemergence or as a harvest aid. For optimum performance, make application to actively growing weeds up to 4 inches tall and rosettes less than 3 inches across. For dense weed pressure, use the higher labeled application rate plus tank mix combinations. **Coverage is essential for good control.** Refer to Table 3 for weeds controlled at labeled rates of LONGBOW EC Herbicide. For broader spectrum weed control, LONGBOW EC Herbicide may be tank mixed with other herbicides registered for use in small grains.

### **Pre Plant Burndown:**

Use up to 1.0 fl oz (0.031 lb a.i.) per acre.

### **Postemergence Application:**

In-season application may be made from 4-inches tall to just prior to the boot stage, Use 0.5 to 1.0 fl oz (0.008 to 0.016 lb a.i.) per acre. Do not apply more than 0.016 lb ai/acre including preplant and postemergent application (not including harvest aid). Use a minimum finished spray solution of 10 gallons per acre by ground or 3 gallons per acre by air. Up to half of the spray volume (by air or ground) may be liquid nitrogen fertilizer.

### **Adjuvant Requirements**

Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient. The use of a high quality sprayable liquid nitrogen fertilizer (2 to 4% v/v or 2 to 4 gallons per 100 gallon spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the nonionic surfactant is allowed. Do not use LONGBOW EC Herbicide with crop oil concentrates (COC), methylated seed oils (MSO) or silicone based adjuvants for postemergence applications.

### **Tank Mix**

To control weeds not listed on this label, LONGBOW EC Herbicide may be tank mixed with other registered herbicides.

For specific mixing instructions, refer to the Mixing and Loading Instructions under the PRODUCT INFORMATION section. Refer to the other product's label for restrictions on tank mixing, and observe all label precautions, instructions, and rotational cropping restrictions. Use aerial or ground equipment for LONGBOW EC Herbicide applications. **Coverage is essential for good control.** Applications shall be made by ground equipment using a minimum finished spray volume of 10 gallons of spray per acre. Applications made by air shall utilize a minimum finished spray volume of 3 gallons per acre. Up to half of the spray volume (by air or ground) may be liquid nitrogen fertilizer. Refer to Table 3 for appropriate weed control information.

### **LONGBOW EC Herbicide Plus 2,4-D (amine or ester) or MCPA (amine or ester)**

LONGBOW EC Herbicide may be tank mixed at a rate of 0.5 to 1.0 fl oz (0.008-0.016 lb a.i.) per acre with 2,4-D (amine or ester) or MCPA (amine or ester) for use on small grains. For optimum results add 2,4-D (amine or ester) to the tank at 0.25 lb acid equivalent per acre or MCPA (amine or ester) at 0.375 lb acid equivalent per acre. Higher rates of these herbicides are allowed, but do not exceed the label use rates allowed by these labels. Add nitrogen fertilizer (2 to 4% v/v) 2 to 4 gallons per 100 gallons or ammonium sulfate 4 lbs. per acre) to the tank mixture.

When applied as directed, LONGBOW EC Herbicide in tank mixtures with 2,4-D (amine or ester) or MCPA (amine or ester) herbicides will provide control of listed weeds up to 4 inches tall:



Amaranthus spp.; Nightshade, black; Bedstraw, catchweed; Pennycress, field \*\*; Buckwheat, wild; Pepperweed, greenflower\*\*; Cocklebur; Pigweed, prostrate; Croton, woolly; Pigweed, redroot; Fiddleneck; Pigweed, smooth; Filaree, redstem; Primrose, cutleaf; Flixweed\*\*; Primrose, tumble; Gromwell, common; Radish, wild; Groundsel, common; Ragweed, common; Knotweed, prostrate\*; Ragweed, giant; Kochia; Rocket, London; Lambsquarters, common; Sowthistle, annual; Lettuce, miners; Speedwell, ivyleaf; Lettuce, prickly; Sunflower, wild; Mustard, blue\*\*\*; Tarweed, coast; Mustard, tansy\*\*\*; Thistle, Russian; Mustard, tumble\*\*; Wallflower, bushy; Mustard, wild\*\*; Waterhemp, tall

\*For Knotweed control, use LONGBOW EC Herbicide + 2,4-D (amine or ester) only.

\*\*These weeds can be treated from the rosette through bolting growth stages.

\*\*\*Apply to rosette growth stage (before bolting) of blue mustard.

### **Harvest Aid**

Apply up to 2.0 fl oz (0.031 lb a.i.) LONGBOW EC per acre, but not to exceed maximum labeled rates. If treatments of LONGBOW EC have been made to the crop earlier, that volume must be considered in determining the maximum use rate as a harvest aid treatment

Applications shall be made in spray volumes sufficient to provide complete coverage of foliage. Use a minimum of 15 gallons of finished spray per acre for ground application and 5 gallons per acre for aerial application.

### **Adjuvant Requirements – Harvest Aid**

A methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use methylated seed oil, or crop oil concentrate (COC) (petroleum or seed oil) at 1 to 2% v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the methylated seed oil or crop oil is allowed.

Good coverage is essential for performance.

### **Restrictions**

- Do not apply more than 2.0 fl oz (0.031 lb a.i.) per acre per season as a Preplant Burndown.
- Do not apply when conditions favor drift.
- Do not harvest for forage within 7 days of application.
- Do not apply more than 1.0 fl oz of LONGBOW EC Herbicide (0.016 lb a.i.) per acre per season including fallow, preplant burndown, or labeled crop applications
- As a Harvest aid do not apply within 7 days of harvest.
- Preharvest interval is jointing stage (except Winter Wheat which is boot stage)

## **SORGHUM (Grown for Grain and Seed)**

### **DIRECTIONS FOR USE**

LONGBOW EC may be applied to grain and forage sorghum as a pre plant burndown; a hooded or shielded spray; and a post directed spray. In addition to these applications methods, LONGBOW EC may be applied to grain sorghum (sorghum grown for grain but not for seed production) as a foliar broadcast and harvest aid treatment.

### **PRE PLANT BURNDOWN**

Use up to 1.0 fl Oz (0.016 lbs a.i.) per acre.

### **FOLIAR BROADCAST (Grain Sorghum Only)**

Use up to 0.5 fl Oz (0.008 lbs a.i.) per acre Apply to grain sorghum from 4 inches tall to just prior to the boot stage. LONGBOW EC may be applied alone or as a tank mixture with other herbicides

labeled for use on sorghum. Broadcast applications of LONGBOW EC to sorghum with wet foliage or application during periods of adverse environmental conditions such as cool, cloudy, wet, or high humidity may cause increased crop response. Directed sprays are suggested under these conditions. For additional information on crop response, refer to the PRODUCT INFORMATION section of the LONGBOW EC label.

#### **LONGBOW EC Use Rates – Foliar, Grain Only**

Do not exceed 0.5 fl oz (0.008 lb a.i.) LONGBOW EC per acre. See Table 3 for weeds controlled at 0.5 fl oz of LONGBOW EC. Rates below 0.5 fl oz may not fully control weeds.

#### **Adjuvant Requirements – Foliar, Grain Only**

Use a nonionic surfactant at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient. Do not use crop oil concentrates or methylated seed oils for broadcast applications on emerged sorghum.

#### **Tank Mix – Foliar, Grain Only**

For control of additional broadleaf weeds and grasses, LONGBOW EC may be tank mixed with 2,4-D (amine), Atrazine, Banvel®, Clarity™, Laddok®, Paramount, Peak®, Permit®, Starane® or Sterling®. Refer to this and the other product's labels for mixing instructions, precautions, and restrictions. Follow the most restrictive instructions for each tank mix partner.

Leaf speckling can occur when LONGBOW EC is used with certain formulations of crop protection products and adjuvants.

#### **DIRECTED OR SHIELDED SPRAY APPLICATIONS**

Use up to 1.0 fl oz (0.016 lbs a.i.) per acre Apply LONGBOW EC when the sorghum is at least 4 inches tall to prior to the boot stage. Use drop nozzles or other sprayers capable of directing the spray to the target weeds and away from the whorl and leaves of the sorghum plant. Applications shall be made by ground equipment using a minimum finished spray volume of 10 gallons per acre. Refer to Table 3 for weeds controlled at labeled rates of LONGBOW EC. **Coverage is essential for good control.** Directed, shielded, or hooded sprayers are required for post emergence treatments to forage sorghum and sorghum grown for seed.

#### **LONGBOW EC Use Rates – Directed or Shielded Spray**

Apply up to 1.0 fl oz LONGBOW EC (0.016 lb a.i.) per acre using directed or shielded sprayers.

#### **Adjuvant Requirements – Directed or Shielded Spray**

Use a nonionic surfactant at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient. Crop oil concentrates or methylated seed oils may increase crop injury on sorghum.

#### **Tank Mix – Directed or Shielded Spray**

For control of additional broadleaf weeds and grasses, LONGBOW EC may be tank mixed with 2,4-D (amine), Atrazine, Banvel®, Clarity™, Laddok®, Paramount, Peak®, Permit®, Starane® or Sterling®. Refer to this and the other product's labels for mixing instructions, precautions, and restrictions. Follow the most restrictive instructions for each tank mix partner.

#### **HOODED SPRAYER APPLICATION**

Apply LONGBOW EC with hooded sprayers to control labeled weeds between the rows of the crop. Refer to the Hooded Sprayer Applications section of this label for additional specific use directions.

### **HARVEST AID (WEED CONTROL)**

Use up to 1.0 fl oz (0.016 lbs a.i) per acre. Apply to defoliate and/or desiccate troublesome broadleaf weeds e.g. morning glories, pigweeds and velvetleaf that may be present at harvest. Apply up to 1.0 fl Oz LONGBOW EC per acre, but not to exceed maximum labeled rates. Refer to the MAXIMUM ALLOWABLE LONGBOW EC USE RATE and the PREHARVEST INTERVAL Table (Table 2) for additional application information. If treatments of LONGBOW EC have been made to the crop earlier, that volume must be considered in determining the maximum use rate as a harvest aid treatment

Applications shall be made in spray volumes sufficient to provide complete coverage of foliage. Use a minimum of 15 gallons of finished spray per acre for ground application and 5 gallons per acre for aerial application.

### **Adjuvant Requirements – Harvest Aid**

A methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use methylated seed oil, or crop oil concentrate (COC) (petroleum or seed oil) at 1 to 2% v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the methylated seed oil or crop oil is allowed.

**Coverage is essential for satisfactory performance.**

### **PRECAUTIONS**

Do not use crop oil concentrates or methylated seed oils for broadcast applications on emerged Sorghum for any applications other than those made for Harvest Aid purposes.

Leaf speckling can occur when LONGBOW EC is used with certain formulations of crop protection products and adjuvants.

### **Restrictions**

- Do not make foliar broadcast applications to forage sorghum or sorghum grown for seed.
- Do not apply more than 1.0 fl Oz (0.016 lb a.i.) per acre per season including fallow, preplant burndown and labeled applications to the growing crop (not including Harvest Aid treatments).
- Do not apply more than 1.0 fl Oz (0.016 lb a.i.) per acre per season as a Harvest Aid treatment.
- Do not apply within 3 days of harvest.

## **SOYBEANS**

Apply LONGBOW EC alone or as a tank mixture with other herbicides to emerged and actively growing weeds. Apply to soybeans in all tillage systems from prior to planting up to prior to emergence. Do not apply LONGBOW EC during a period from emergence to V2. After plants have reached V3, applications are allowed up to V10.

For optimum performance, make application to actively growing weeds up to 4 inches tall and rosettes less than 3 inches across. Use the higher rates when treating more mature weeds or dense vegetative growth. Good coverage is essential for good control. Refer to weed control list in Table 3 for appropriate weed control information.

### **Preplant Burndown**

Apply up to 1.5 fl oz (0.023 lb a.i.) per acre

### **Adjuvant Requirements**

Use NIS only as the adjuvant for this treatment at the rate of 0.25% v/v (2 pints per 100 gallons of spray solution).

### **Tank Mix**

LONGBOW EC may be tankmixed with other herbicides to control weeds not listed on this label. **Do not use with diphenylether herbicides.** Read and follow all manufacturers' label directions for the mixture herbicide except for specific directions on this label. For specific mixing instructions, refer to the Mixing and Loading Instructions under the PRODUCT INFORMATION section. For control of additional broadleaf weeds and grasses, LONGBOW EC may be tankmixed with glyphosate or glufosinate products for use on GMO soybeans. Leaf injury can occur when LONGBOW EC is used with certain formulations of crop protection products and adjuvants. Refer to the Tank Mixtures and Required Adjuvants sections under PRODUCT INFORMATION.

When used as directed LONGBOW EC at 0.25 fl oz (0.004 lb a.i.) per acre will provide control of Velvetleaf weed up to 4 inches tall. When used as directed, LONGBOW EC at 0.5 fl oz (0.008 lb a.i.) per acre will provide control of the following weeds up to 4 inches tall, or as specified. Lambsquarters, common; Nightshade, black; Morningglory, Pitted (up to 3 true leaves); Pigweed, redroot Morningglory, Ivyleaf (up to 3 true leaves); Waterhemp, spp. (up to 3 inches tall)

### **Hooded Sprayer Application**

Apply LONGBOW EC with hooded sprayers to control labeled weeds between the rows of the crop. Refer to the Hooded Sprayer Applications of this label for additional specific use directions.

### **Directed Sprayer Application**

Use LONGBOW EC at 0.5 to 1.5 fl oz (0.008 to 0.023 lb a.i.) per acre. Applications shall be made by ground equipment using a finished volume of 10 to 20 gallons of spray per acre. When soybeans are grown under very dry soil moisture conditions, the use of a high quality sprayable liquid nitrogen fertilizer (2 to 4% v/v) or 2 to 4 gallons per 100 gallon spray solution) used in addition to the nonionic surfactant is allowed. Apply as a post-directed treatment with spray directed toward the base of the plant and avoid contact with soybean foliage. The use of spray shields may reduce spray contact with soybean foliage. LONGBOW EC herbicide contact with soybean foliage can result in significant crop response.

As a Harvest aid apply Up to 1.5 fl oz (0.023 lb a.i.) per acre

### **Restrictions**

- Do not apply more than 1.5 fl oz (0.023 lb a.i.) per acre per season.
- Do not feed treated soybean forage or hay to livestock.
- Do not use with diphenylether herbicides.
- Do not apply when conditions favoring drift exist.
- Do not apply when crop foliage is wet from dew, rainfall or irrigation.
- Do not apply within 3 days of harvest after Harvest Aid application.
- Do not make post-emergence weed control applications after V10 stage.

## **Sugarcane**

### **Postemergence/Hood Spray Application**

Apply LONGBOW EC alone or as a tank mixture with other herbicides as a postemergence treatment or as a hooded/directed spray treatment to control emerged and actively growing weeds. Apply LONGBOW EC up to 2.0 fl oz (0.031 lb a.i.) per acre. Apply hooded/directed applications of LONGBOW EC to middles (between rows of plants) and in strips (in row of plants). Apply LONGBOW EC at any time during the season (see precautions). LONGBOW EC may be mixed with other herbicides that have pre-emergence or post-emergence activity. Any pre-emergence activity must rely on activity from other herbicides as directed on their labels. Herbicides such as glyphosate may be tank mixed with LONGBOW EC for broader spectrum weed control. If LONGBOW EC is used in a tank mixture, observe the other product's label for restrictions, precautions and rotational cropping instructions.

### **Harvest Aid Application**

Use LONGBOW EC at 1.0 - 2.0 fl oz (0.016 - 0.031 lb. a.i.) per acre as a harvest aid to defoliate and desiccate troublesome weeds that may be present at harvest. Apply LONGBOW EC alone or as a tank mixture with other sugarcane harvest aids.

### **Adjuvant Requirements**

Control is enhanced with the addition of a nonionic surfactant (NIS) or crop oil concentrate (COC). Use a quality nonionic surfactant (NIS) containing at least 80% active at 0.25% v/v (2 pints NIS per 100 gallons) or a crop oil concentrate (COC) at 1% v/v (one gallon COC per 100 gallons), or a methylated seed oil (MSO). The use of a high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v or ammonium sulfate (AMS) used at 2 to 4 pounds per acre in addition to the NIS, or MSO or COC is allowed.

### **Crop Rotation**

**IMPORTANT: After an application of LONGBOW EC to sugarcane, you may only rotate the field to a carfentrazone-ethyl registered crop**

#### **Restrictions:**

- Do not apply more than 6.1 fl oz (0.096 pounds active ingredient) per acre per season.
- Do not apply more than one harvest aid treatment per season.
- Do not apply more than 2.0 fl oz (0.031 lb a.i.) per acre per season as a harvest aid treatment
- Do not apply within 7 days of harvest

### **TEFF (Grain and Forage)**

LONGBOW EC may be applied to grain and forage teff as a pre plant burndown; a hooded or shielded spray; and a post directed spray. In addition to these application methods, LONGBOW EC may be applied to grain teff (teff grown for grain but not for seed production) as a foliar broadcast and harvest aid treatment. See Table 1 for Maximum Seasonal LONGBOW EC Use and Table 3 for weeds controlled at labeled rates of LONGBOW EC on teff.

### **PRE PLANT BURNDOWN**

See instructions under the Pre Plant Burndown section of this label. Use up to 1.0 fl Oz (0.016 pounds active ingredient) per acre

### **FOLIAR BROADCAST (Grain Teff Only)**

Use up to 0.5 fl Oz (0.008 lbs. ai.) per acre. Apply to grain teff from 4 inches tall to just prior to the boot stage. LONGBOW EC may be applied alone or as a tank mixture with other herbicides labeled

for use on teff. Broadcast applications of LONGBOW EC to teff with wet foliage or application during periods of adverse environmental conditions such as cool, cloudy, wet, or high humidity may cause increased crop response. Directed sprays are suggested under these conditions. For additional information on crop response, refer to the PRODUCT INFORMATION section of the LONGBOW EC label.

#### **LONGBOW EC Use Rates – Foliar Grain Only**

Do not exceed 0.5 fl oz (0.008 lb a.i.) LONGBOW EC per acre. See Table 3 for weeds controlled at 0.5 fl oz of LONGBOW EC. Rates below 0.5 fl oz may not fully control weeds.

#### **Adjuvant Requirements – Foliar Grain Only**

Use a nonionic surfactant at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient. Do not use crop oil concentrates or methylated seed oils for broadcast applications on emerged teff.

#### **Tank Mix –Foliar Grain Only**

For control of additional broadleaf weeds and grasses, LONGBOW EC may be tank mixed with 2,4-D (amine), Atrazine, Banvel®, Clarity™, Laddok®, Paramount, Peak®, Permit®, Starane® or Sterling®. Refer to this and the other product's labels for mixing instructions, precautions, and restrictions. Follow the most restrictive instructions for each tank mix partner. Leaf speckling can occur when LONGBOW EC is used with certain formulations of crop protection products and adjuvants.

#### **DIRECTED OR SHIELDED SPRAY APPLICATIONS**

Use up to 1.0 fl oz (0.016 lbs a.i.) per acre Apply LONGBOW EC when the teff is at least 4 inches tall to prior to the boot stage. Use drop nozzles or other sprayers capable of directing the spray to the target weeds and away from the whorl and leaves of the teff plant. Applications shall be made by ground equipment using a minimum finished spray volume of 10 gallons per acre. Refer to Table 3 for weeds controlled at labeled rates of LONGBOW EC. Complete coverage is necessary for good control. Directed, shielded, or hooded sprayers are required for post emergence treatments to forage teff and teff grown for seed.

#### **LONGBOW EC Use Rates – Directed or Shielded Spray**

Apply up to 1.0 fl oz LONGBOW EC (00.016 lb a.i.) per acre using directed or shielded sprayers.

#### **Adjuvant Requirements – Directed or Shielded Spray**

Use a nonionic surfactant at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient. Crop oil concentrates or methylated seed oils may increase crop injury on teff.

#### **Tank Mix – Directed or Shielded Spray**

For control of additional broadleaf weeds and grasses, LONGBOW EC may be tank mixed with 2,4-D (amine), Atrazine, Banvel®, Clarity™, Laddok®, Paramount, Peak®, Permit®, Starane® or Sterling®. Refer to this and the other product's labels for mixing instructions, precautions, and restrictions. Follow the most restrictive instructions for each tank mix partner.

#### **HOODED SPRAYER APPLICATION**

Apply LONGBOW EC with hooded sprayers to control labeled weeds between the rows of the crop. Refer to the Hooded Sprayer Applications section of this label for additional specific use directions.

#### **HARVEST AID (WEED CONTROL)**

Use up to 2.0 fl oz (0.031 lbs. a.i.) per acre Apply LONGBOW EC to defoliate and/or desiccate

troublesome broadleaf weeds e.g. morningglories, pigweeds and velvetleaf that may be present at harvest. Do not to exceed maximum labeled rates. Refer to the MAXIMUM ALLOWABLE LONGBOW EC USE RATE and the PREHARVEST INTERVAL Table (Table 2) for additional application information. If treatments of LONGBOW EC have been made to the crop earlier, that volume must be considered in determining the maximum use rate as a harvest aid treatment

Applications shall be made in spray volumes sufficient to provide complete coverage of foliage. Use a minimum of 15 gallons of finished spray per acre for ground application and 5 gallons per acre for aerial application.

#### **Adjuvant Requirements – Harvest Aid**

A methylated seed oil (MSO) or crop oil concentrate (COC) is required. Use methylated seed oil, or crop oil concentrate (COC) (petroleum or seed oil) at 1 to 2% v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the methylated seed oil or crop oil is allowed.

Complete coverage is essential for good performance.

#### **PRECAUTIONS**

Do not use crop oil concentrates or methylated seed oils for broadcast applications on emerged teff. Leaf speckling can occur when LONGBOW EC is used with certain formulations of crop protection products and adjuvants.

#### **Restrictions:**

- Do not make foliar broadcast applications to forage teff or teff grown for seed.
- Do not apply more than 2.0 fl Oz (0.031 lb a.i.) per acre per season including fallow, preplant burndown and labeled applications to the growing crop (not including Harvest Aid treatments).
- Do not apply more than 2.0 fl Oz (0.031 lb a.i.) per acre per season as a Harvest Aid treatment.
- Do not apply after Jointing Stage for Foliar Broadcast, Directed or Shielded Spray applications.
- Do not apply within 3 days of harvest.

### **TOBACCO**

#### **DIRECTIONS FOR USE**

Apply LONGBOW EC up to 1.5 fl oz (0.024 lb a.i.) per acre alone or as a tank mixture with other registered herbicides to emerged and actively growing weeds For optimum performance, make applications to weeds up to 4 inches tall and rosettes less than 3 inches across. Use higher rates when treating more mature weeds or dense vegetative growth. Good coverage is essential for good control.

#### **Adjuvant Requirements**

Use adequate spray volume to achieve thorough coverage, but a minimum of 10 gallons of finished spray per acre is required. Use a quality crop oil concentrate (COC) at 1% v/v (1 gallon of COC per 100 gallons of spray solution).

LONGBOW EC may be tank mixed with other herbicides registered for use on tobacco to provide additional weed control. For specific mixing instructions, refer to the Mixing and Loading Instructions under the PRODUCT INFORMATION section. Refer to the other product label for restrictions on tank mixing and observe all label precautions, instructions and rotational cropping restrictions.

For additional information refer to the PRODUCT INFORMATION section of the LONGBOW EC label.

### **Pre-transplant burndown**

LONGBOW EC is a contact herbicide for pre-transplant burndown control of broadleaf weeds in tobacco. Apply LONGBOW EC as a broadcast application alone or as a tank mixture with other herbicides to emerged and actively growing weeds. Apply LONGBOW EC up to one (1) day prior to transplanting.

### **Shielded spray or Hooded spray**

Apply LONGBOW EC using shielded sprayers or hooded sprayers to emerged and actively growing broadleaf weeds in tobacco from transplanting until layby. Shielded spray or hooded spray applications of LONGBOW EC or LONGBOW EC tank mixtures should utilize application equipment that must prevent contact of spray solution with the tobacco plant. Do not allow spray solution to contact tobacco foliage or green stem tissue. Refer to the Hooded Sprayer Applications section of this label for additional specific use directions.

### **Directed spray after first priming (Flue Cured Tobacco Only)**

Apply LONGBOW EC as a directed spray application after the first priming in only flue cured tobacco only for the control of emerged and actively growing broadleaf weeds. Directed spray equipment should position nozzles a minimum of 3 to 4 inches above the soil, with nozzles directed underneath the crop canopy. Spray solution should be directed at the base of tobacco plants for minimal contact with foliage while maintaining maximum contact with broadleaf weeds that are at appropriate treatment size. Do not apply when conditions favor drift or wind is above 10 mph.

For control of additional broadleaf weeds and grasses, LONGBOW EC may be tank mixed with other herbicides registered for use in tobacco at the appropriate timing. Refer to weed control list in Table 3 for appropriate weed control information. Refer to the other product's label for restrictions on tank mixing, and observe all label precautions, instructions and rotational cropping restrictions.

### **Restrictions**

- Do not apply more than 3.2 fl oz (0.05 pounds active ingredient) per acre per season.
- Do not apply within 6 days of harvest.

## **TUBEROUS AND CORM VEGETABLES (SUBGROUP 1C & 1D – EXCEPT POTATO)**

### **DIRECTIONS FOR USE**

Apply LONGBOW EC alone or in a tank mix combination with other herbicides and insecticides as fallow systems treatment, as a preplant burndown treatment and/or as a harvest aid to desiccate potatoes and those susceptible weeds that may be present.

#### **Fallow Systems**

Apply LONGBOW EC, up to 2.0 fl oz (0.031 lb a.i.) per acre, by ground or air alone or with other herbicides in the fallow period prior to planting or the emergence of any crop listed on this label to control or suppress weeds. For optimum performance, make applications to actively growing weeds up to 4 inches high or rosettes less than 3 inches across. **Coverage is essential for good weed control.**

LONGBOW EC, at up to 2.0 fl oz (0.031 lb a.i.) per acre, may be utilized in Fallow Cropping Systems for chemical weed control to aid in moisture conservation between cropping periods.

#### **Preplant Burndown**

Apply LONGBOW EC alone or with other herbicides or liquid fertilizers as a burn-down treatment to control or suppress weeds. LONGBOW EC is effective as a burndown treatment for crops prior to new plantings. Do not exceed the applicable amounts as listed for the specific crop in the MAXIMUM ALLOWABLE LONGBOW EC USE in Table 1. For optimum performance, make applications to actively growing weeds up to 4 inches high or rosettes less than 3 inches across.



**Coverage is essential for good control.** Optimum broad-spectrum control of annual and perennial weeds requires a tank mix with a labeled burndown herbicides such as glyphosate, glufosinate, paraquat, 2,4-D, or dicamba.

### **Harvest Aid Desiccation Application**

Apply LONGBOW EC, at 3.2 to 5.8 fl oz (0.05 to 0.09 lb a.i.) per acre (2.0 – 5.8 oz with other registered potato desiccants) foliar to potatoes in the later stages of senescence for desiccation of potato foliage and vines. LONGBOW EC will also desiccate late season susceptible broadleaf weeds to aid in tuber harvest. Adequate desiccation is achieved within 14 days after the initial treatment is applied. If the potato crop is in the active vegetative growth stage when desiccation is initiated, two applications may be required to provide desiccation of leaf and stem tissue. Dense potato canopy, large plant size and environmental conditions not conducive to product absorption or activity will reduce initial application efficacy and increase the need for a second application. If a second application is necessary, apply at 7 to 14 days after the first application. **Thorough coverage of the potato plant to be desiccated is essential.** Use a sufficient volume of water to obtain thorough coverage of the potato leaves and vines.

### **Ground Application**

Apply LONGBOW EC in at least 20 gallons of water per acre. Vary the spray volume and spray pressure as indicated by the density of the potato canopy and vines to assure thorough spray coverage.

Increase the spray volume and pressure if the potato canopy is dense or under cool, cloudy or dry conditions. Increased spray volumes will enhance performance.

### **Aerial Application**

Apply LONGBOW EC with aerial equipment using 5 to 10 gallons of water per acre, using higher volumes when potato canopies and vines are dense. Adjust the nozzles to provide a uniform pattern and a droplet size of 350 to 450 microns.

### **Tank Mixtures**

Apply LONGBOW EC as a tank mix or as a sequential application with other potato desiccants. Refer to the other product's label for restrictions on tank mixing, and observe all label precautions, instructions and rotational cropping restrictions.

### **Adjuvant Requirements**

A nonionic surfactant (NIS), methylated seed oil (MSO), or crop oil concentrate (COC) or other suitable surfactant mixture is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient, or a methylated seed oil, or crop oil concentrate (COC)(petroleum or seed oil) at 1 to 2 v/v (1 to 2 gallons per 100 gallons of spray solution). The use of a high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons spray solution) or ammonium sulfate (AMS) at the rate of 2 to 4 pounds per acre in addition to the nonionic surfactant methylated seed oil or crop oil is allowed.

Adjuvant rates should increase as spray volumes exceed 20 gallons per acre.

### **Restrictions**

- Do not apply more than 11.6 fl oz of (0.181 lb a.i.) per acre per crop season as a desiccant.
- Do not apply when conditions favor drift or wind is above 10 mph.
- Do not apply within 7 days of harvest.

## STORAGE AND DISPOSAL

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

### **Pesticide Storage:**

Not for use or storage in or around the home.

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put formulated or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by inappropriate storage or disposal.

In case of spill, avoid contact, isolate area and keep out unprotected persons and animals. Confine spills.

To confine spill: Dike surrounding area, sweep up spillage. Dispose of in accordance with information given under Pesticide Disposal. Wash spill area with water, absorb with sand, cat litter or commercial clay, sweep up and dispose of in an approved manner. Place damaged container in a larger holding container. Identify contents per required hazardous waste labeling regulations.

### **Pesticide Disposal:**

Waste resulting from the use of this product may be disposed of at an approved waste disposal facility.

### **Container Handling:**

**Nonrefillable container:** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: (For containers greater than 5 gallons) Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. (For containers 5 gallons or less) Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip.

Repeat this procedure two more times. Triple rinse (or equivalent). Then offer for recycling if available, or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Returnable/Refillable Containers:** 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 into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. If unable to return or refill, offer for recycling if available, or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

## WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER, AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS

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**If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations on liability, do not use the goods, and return it unopened to the Seller, and the purchase price will be refunded.** *By using the goods, you expressly agree to all of the terms and conditions of this contract.*

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**Optional Marketing Claims:**

Nufarm Grow a better tomorrow.

Grow a better tomorrow.

[Note to reviewer: Any text found in brackets “[ ” “]” is optional on container label.]

[Note to reviewer: State restrictions will not be found on the container label if the product is not registered in that associated state.]

[Note to reviewer: Making the product more restrictive than Federally accepted, incorporating the optional statement “Not for use in California.” may be included on the container label for any use, weed or crop as determined to be necessary to procure CADPR registration.]