PM 23 48273-12 09/29/99 1/7

SEP 29 1999

Ms. Kim Davis
Agent for Marman USA, Inc.
RegWest Company
P.O. Box 2220
Greeley, CO 80632-2220

Dear Ms. Davis:

Subject: Asulam® Herbicide
EPA Registration No. 48273-12
Application and Letter Dated September 7, 1999 and
Your Letter Dated September 21, 1999, Resubmission of
Corrected Labeling for Subject Pesticide Product
Registration of Marman USA, Inc.

The subject labeling for Asulam Herbicide has been reviewed and found acceptable for registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended. As indicated in the Notice of Reregistration (Dated May 27, 1999) of the subject pesticide product, the reregistration of the subject product is conditional until you have provided this Agency a final printed label.

If the condition of registration mentioned above is not complied with the registration of it will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of that conditon. A stamped copy of the label is enclosed for your records.

Sincerely yours,

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

E.Wilson: Diskette REDS: 09-29-99

	CONCURRENCES							
SYMBOL								
SURNAME								
DATE								

EPA Form 1320-1 (12-70) OFFICIAL FILE COPY

ASULAM HERBICIDE

For Agricultural or Commercial Use Only.
Not for Use by Homeowners.

For Postemergent Weed Control in Sugarcane, Turf, Ornamentals, Christmas Tree Plantings and Non-Cropland

ACTIVE INGREDIENT:	
Sodium salt of asulam (methyl sulfanilycarbamate)*	36.2%
INERT INGREDIENTS	63.8%
Total	100.0%

*Equivalent to 33.1% asulam or not less than 3.34 lbs. per gallon.

ACCEPTED with COMMENTS In EPA Letter Dated
SEP 29 1999
Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 48273-12

Keep Out of Reach of Children
CAUTION
See side panel for additional precautionary statements.

NET CONTENTS: _____ GALLONS

EPA Reg. No. 48273-12 EPA Est. 48273-FL-1

MARMAN USA, INC.
P.O. Box 22829
Tampa, FL 33622-2829

For product use information call 1-800-334-9745
For only medical and transportation emergencies call 24 hours a day 1-800-334-7577

[Side Panel]

PRECAUTIONARY STATEMENTS

Hazards to Humans & Domestic Animals

CAUTION: Harmful if absorbed through skin. Avoid contact with eyes, skin or clothing. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear long-sleeved shirt and long pants, chemical-resistant gloves (such as Nitrile, Butyl, Neoprene and/or Barrier Laminate) and shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Control Statements

When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 172.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should leave the treated area and remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should 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.

First Aid

If on Skin:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If in Eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. • Call a poison control center or doctor for treatment advice.
• Have the product container or label with you when calling a poison control center or doctor or going for treatment.	

Environmental Hazards

This chemical is known to leach through soil into ground water under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination. Surface water contamination may occur in areas with poorly draining soils and little or no buffers or in areas where drainage systems flow directly to surface water.

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not clean equipment or dispose of equipment washwater in a manner that will contaminate resources. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water by cleaning of equipment or disposal of wastes.

DIRECTIONS FOR USE

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

Read entire label before using this product.

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 intervals. The requirements in this box apply only 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 into treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated such as plants, soil or water is coveralls, chemical-resistant gloves and shoes plus socks.

Storage and Disposal

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

Storage: Store at temperatures above 20°F. **Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. **Container Disposal:** Triple rinse or equivalent. Then puncture and dispose of in a sanitary landfill, by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke. **Returnable/Refillable Containers:** After use, return the container to the point of purchase or designated locations. This container must be refilled only with Asulam Herbicide. DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE. Prior to refilling, inspect thoroughly for damage such as cracks, punctures, abrasions and damaged or worn out threads on closure devices. Do not refill or transport damaged or leaking containers. Check for leaks after refilling and before transportation. For information on the disposal of unused, unwanted product, contact Marman USA, Inc. at (813) 286-2503. For information on cleanup of spills, contact Rhône-Poulenc at 1-800-334-7577. If the container is not being refilled, return it to the point of purchase.

GENERAL INSTRUCTIONS AND INFORMATION

Application Instructions

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 of 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 regulations.

SUGARCANE

This product can be applied to either plant cane or cane grown from stubble. Apply this product as a water mix spray for ground applications. Use 15 to 100 gallons of water per acre, depending on local practice. For aerial application, this product should be mixed in 3 to 5 gallons of water per acre, except in Hawaii, where 5 to 10 gallons of water per acre should be used.

Addition of an adjuvant cleared for use on growing crops to the Asulam Herbicide water mix spray will improve weed control when environmental conditions are not optimal. Use either a non-ionic surfactant containing a minimum of 80% active ingredient at the rate of 1 to 2 quarts per 100 gallons (0.25 to 0.5% v/v) of water mix spray or a crop oil concentrate containing 80 to 85% paraffin-based petroleum oil and 15 to 20% non-ionic surfactant at the rate of 4 quarts per 100 gallons (1% v/v) of water mix spray.

The rates given below are for broadcast applications. For banded application, reduce the rate proportionally to the width of the band according to the following formula:

$$\frac{\text{Band Width (inches)}}{\text{Row Width (inches)}} \times \text{Broadcast Rate} = \text{Band Rate/Acre}$$

For spot treatments, use a 5% v/v Asulam spray (1 gallon per 20 gallons of water). Do not exceed 8 pints of Asulam per acre per treatment.

ngle Application Per Growing Season

WEED SPECIES	SPECIAL INSTRUCTIONS	RATE
Itchgrass or Raoulgrass (*Rottboellia exaltata*)	Apply when the grass is 8 inches tall or less (addition of surfactant is necessary).	8 pints acre
Johnsongrass (*Sorghum halepense*)	Apply when the grass is between 12 to 18 inches tall. Johnsongrass should be actively growing and the average air temperature should be at least 60°F or higher.	
Paragrass or Californiagrass (*Brachiaria mutica* or *Panicum purpurascens*)	Apply when the grass is 6 to 8 inches tall or less.	
Crabgrass (*Digitaria* spp.)	If treatment is made before the grass reaches seed head formation then the lower rate should be used. If the grass is in early seed head formation then the higher rate should be used.	6 – 8 pints acre
Alexandergrass (*Brachiaria plantaginea*) Foxtail (*Setaria* spp.) Goosegrass (*Eleusine indica*) Broadleaf Panicum (*Panicum adspersum*) Barnyardgrass (*Echinochloa crusgalli*)	If treatment is made when the grass is 6 to 8 inches tall or less, then the lower rate should be used. If the grass is greater than 8 inches tall, then the higher rate should be used.	

Two Applications Per Growing Season

This may be required when initial weed infestations are heavy and/or when rhizome Johnsongrass is present. Two applications may also be used when treating weed species that germinate at different times during one growing season.

WEED SPECIES	SPECIAL INSTRUCTIONS	1ST APPLICATION	2ND APPLICATION
Crabgrass (*Digitaria* spp.)	At each application the grass should be treated before seed head formation.	6 to 8 pints/acre	6 to 8 pints acre
Itchgrass or Raoulgrass (*Rottboellia exaltata*)	At each application the grass should be 8 inches tall or less (addition of surfactant is necessary).	8 pints/acre	8 pints/acre
Johnsongrass (*Sorghum halepense*)	At each application the grass should be between 12 and 18 inches tall.	8 pints/acre	8 pints/acre

Restrictions and Precautions: Sugarcane

- Asulam Herbicide should be used when the weeds are actively growing.
- Cover crops may be planted if plowed under and not grazed.
- The following pre-harvest intervals for Asulam Herbicide applications to sugarcane must be observed: 1) Mainland USA (except Louisiana) – 140 days; 2) Louisiana only – 100 days; 3) Hawaii – 400 days.
- Do not graze or feed sugarcane fodder and forage to livestock.
- Cultivation and/or fertilizer applications or any other cultural practice that disturbs the root system of targeted weed species may result in less than optimum control when applying this product. These practices are not recommended within 7 days prior to or within 7 days after applications of this product.

- Differences in crop tolerance to this product among Sugarcane varieties have been reported in Louisiana. Contact your local County Agent or University Extension Specialist for further information.

SPRAY DRIFT REQUIREMENTS

Treatments Applied Aerially to Sugarcane

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator is responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed ¾ the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, the state regulations should be observed. The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory below:

AERIAL DRIFT REDUCTION ADVISORY

Information on Droplet Size: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see *Wind, Temperature and Humidity* and *Temperature Inversions*).

Controlling Droplet Size:

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure:** Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles:** Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation:** Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length: For some use patterns, reducing the effective boom length to less than ¾ of the wingspan or rotor length may further reduce drift without reducing swath width.

Application Height: 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. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment: When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator should compensate for this displacement by adjusting the pat of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller drops. etc.).

Wind: Drift potential is lowest between wind speeds of 2-10 mph. However, many factors including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **Note:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

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

Temperature Inversions: Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of 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: The pesticide should be applied only when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

NON-CROPLAND

This product may be used as postemergent treatment to control weeds on non-cropland areas such as:

Boundary fences
Fence rows
Highway and roadside rights-of-way
Lumberyards
Pipeline rights-of-way
Railroad rights-of-way and yards
Storage areas and industrial plant sites
Utility rights-of-way and yards
Warehouse lots

A surfactant may be added to the spray solution at 0.25% by volume. Use an approved non-ionic surfactant. Apply this product as a single water-mix spray for ground applications using 20 to 100 gallons of solution per acre, depending on local practice, to control the following weed species. Apply only one application per year. Aerial application is prohibited.

WEED SPECIES	SPECIAL INSTRUCTIONS	RATE
Crabgrass (*Digitaria* spp.)	Apply before the grass reaches seed head formation	1 gallon/acre
Johnsongrass (*Sorghum halepense*)	Apply when the grass is 18 inches or taller. Use the higher rate in well-established heavy infestations. For spot treatment in Hawaii, use the higher rate in 100 gallons of solution and apply an amount not to exceed 50 gallons of total solution per acre.	
Paragrass or Californiagrass (*Brachiaria mutica* or *Panicum purpurascens*)	Apply before the grass reaches seed head formation. For spot treatment in Hawaii, use the same rate in 100 gallons of solution and apply an amount not to exceed 50 gallons of total solution per acre.	
Western Bracken (*Pteridium aquilinum var. pubescens*)	Apply when the fern is in full frond.	7 to 8 pints acre

CHRISTMAS TREE PLANTINGS

This product may be used as a postemergent treatment in Christmas Tree Plantings where Douglas Fir, Grand Fir, Nobel Fir or Scotch Pine are grown. Do not graze or feed foliage from treated areas to livestock.
This product should be applied as a water mix spray. For ground application use a minimum of 20 gallons of solution per acre. Do not use a wetting agent with this product. Apply only one application per year. Aerial application is prohibited.

WEED SPECIES	SPECIAL INSTRUCTIONS	RATE
Western Bracken (*Pteridium aquilinum var. pubescens*)	Apply after bud break and hardening or firming of new tree growth. Bracken should be in full frond prior to treatment.	1 gallon/acre

TURF
(Sod Farms Only)

This product can be applied on St. Augustinegrass and Tifway 419 Bermudagrass turf. Apply one application per season postemergence to the weeds listed below. Use 20 to 50 gallons of water per acre in the spray solution.

TURF SPECIES	WEED SPECIES	RATE
St. Augustinegrass	Bullgrass (*Paspalum supinum*), Crabgrass (*Digitaria* spp.), Goosegrass (*Eleusine indica*)	5 pints/acre
Tifway 419 Bermudagrass	Sandbur (*Cenchrus* spp.)	

Do not use a surfactant. Do not apply to turf which is under stress or freshly mowed.

ORNAMENTALS

This product can be applied as a single, postemergent, broadcast application on the following ornamentals:

JUNIPERS		YEWS
Juniperus andorra	*Juniperus horizontalis*	*Taxus cuspidata*
Juniperus chinensis	*Juniperus litoralis*	*Taxus media*
Juniperus conferta	*Juniperus sabina*	*Podocarpus macrophyllus*

Treatment should be made with a minimum of 20 gallons of water per acre. Do not use a surfactant.

WEED SPECIES	SPECIAL INSTRUCTIONS	RATE
Barnyardgrass (*Echinochloa crusgali*) Crabgrass (*Digitaria* spp.) Fall Panicum (*Panicum dichotomiflorum*) Foxtails (*Setaria* spp.) Goosegrass (*Eleusine indica*) Horseweed (marestail) (*Conyza canadensis*)	Apply when the weeds are between the stages of early seedling and early seed head formation.	1 gallon/acre

Local conditions may affect the use of this chemical. Consult State Agricultural Extension or Experiment Station weed specialists for specific recommendations for local weed problems and for information on possible lower dosages.

LIMITED WARRANTY AND DISCLAIMER

The manufacturer warrants (a) that this product conforms to the chemical description on the label; (b) that this product is reasonably fit for the purposes set forth in the directions for use when it is used in accordance with such directions; and (c) that the directions, warnings and other statements on this label are based upon responsible experts' evaluation of reasonable tests of effectiveness, of toxicity to laboratory animals and to plants, and of residues on food crops, and upon reports of field experience. Tests have not been made on all varieties or in all states or under all conditions. **The manufacturer neither makes or intends nor does it authorize any agent or representative to make any other warranties, express or implied, and it expressly excludes and disclaims all implied warranties of merchantability or fitness for a particular purpose.**

This warranty does not extend to, and the buyer shall be solely responsible for, any and all loss or damage that results from the use of this product in any manner which is inconsistent with the label directions, warnings or cautions.

Buyer's exclusive remedy and Manufacturer's or Seller's exclusive liability for any and all claims, losses, damages or injuries resulting from the use or handling of this product, whether or not based in contract, negligence, strict liability in tort or otherwise, shall be limited at the manufacturer's option to replacement of or the repayment of the purchase price for the quantity of product with respect to which damages are claimed. In no event shall the Manufacturer or Seller be liable for special, indirect or consequential damages resulting from the use or handling of this product.

NOTICE TO BUYER

Purchase of this material does not confer any rights under patents governing this product or the use thereof in countries outside of the United States.