U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Biopesticides and Pollution Prevention Division (7511C)
1200 Pennsylvania Avenue, NW
Washington, DC 20460

NOTICE OF PESTICIDE:
__X__ Registration
_____ Reregistration
(under FIFRA, as amended)

EPA Reg. Number:	Date of Issuance:
82681-1	3-28-06

Term of Issuance: Unconditional

Name of Pesticide Product:
LockDown™ *retro*

Name and Address of Registrant (include ZIP Code):

Agricultural Research Initiatives, Inc., 700 Research Center Blvd., Fayetteville, AR 72701
Att: Kelly Cartwright

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Biopesticides and Pollution Prevention 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 registration does not eliminate the need for continual reassessment of the pesticide. If EPA determines at any time that additional data are required to maintain in effect an existing registration, the Agency will require submission of such data under section 3(c)(2)(B) of FIFRA.

This product is registered in accordance with FIFRA section 3(c)(5) and is subject to the following conditions:

1. Make the following modification to the stamped enclosed label :

   Change the EPA File Symbol No. 82681-R to EPA Reg. No. 82681-1

2. Submit two (2) copies of the final printed labeling before you release the product for shipment.

A stamped copy of the label is enclosed for your records.

Signature of Approving Official:	Date:
Janet L. Anderson	3-28-06

EPA Form 8570-6

2 8 7

LockDown™ *retro* Label

For selective postemergence control of Northern Jointvetch (Curly Indigo) in Rice.

LockDown *retro* **is a two component product**
Component A: **a fungal spore rehydrating agent**
Component B: Active Ingredient plus other ingredients

Active Ingredient: *Colletotrichum gloeosporioides* f. sp *aeschynomene* and fermentation medium	45.0 %
Other Ingredients:	55.0%
Total :	100.0%

Contains at least 1 X 10^9 viable fungal spores (CFU's)/gram of product

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID	
If in eyes	• Hold eye open and rinse slowly and gently with water for 15-20 minutes • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye • Call a poison control center or doctor for treatment advice
Hotline: Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency information, you can reach a local poison control center at 1-800-222-1222.	

EPA Reg. No.:
EPA Establishment No.: 082681-AR-001

Agricultural Research Initiatives, Inc. (ARI)
700 Research Center Blvd.
Fayetteville, AR 72701
479-841-3699
479-575-7446 (FAX)
dkellyc@alltel.net

ACCEPTED

In EPA Letter Dated
3/29/06

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

82681-1

Net Contents

- 750 to 3000 gms of formulated C.g.a. spores (1-4 bags with each bag containing 750 gms)
- 1 to 4 quarts of rehydrating agent in 1-qt packages

NOTE-750 gms of formulated C.g.a. spores plus 1 qt of rehydrating agent will treat 10 acres

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS: CAUTION.

Causes slight eye irritation. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and launder before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE): Applicators and other handlers must wear long-sleeved shirt and long pants, waterproof gloves and shoes plus socks. All mixer/loaders and applicators must wear a dust/mist-filtering respirator (MSHA/NIOSH approval number prefix TC-21C), or a NIOSH approved respirator with any N, P, R, or HE filter. This requirement may be modified for closed systems, and for applicators in an enclosed cab. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization. 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.

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. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

ENVIRONMENTAL HAZARDS:

Keep out of lakes, ponds, or streams. Do not apply directly to water except as indicated in the directions for use. Do not contaminate water by cleaning of equipment or disposal of wastes Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NDPES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

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 (REI). 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 of 4 hours.

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

DIRECTIONS FOR USE

THIS PRODUCT MAY ONLY BE APPLIED IN THE STATES OF ARKANSAS, LOUISIANA & MISSISSIPPI.
READ ENTIRE LABEL BEFORE USING

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other person, 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.

GENERAL INFORMATION

LockDown retro is a postemergence mycoherbicide containing a fungus for control of the weed northern jointvetch (curly indigo) *Aeschynomene viginica* (L.) B.S.P. in rice *(Oryza sativa L.)*. Apply *LockDown retro to* emerged northern jointvetch plants that are from **8 to 24 inches tall and have not reached the bloom stage**. *LockDown retro* will cause disease lesions that completely encircle the stems of the northern jointvetch plants. The fungus primarily infects the stems of the weed but it also infects the petioles and leaflets. Diseased plants wilt and may die. Plants not killed by *LockDown retro* are stunted, unthrifty, and unable to produce seed or compete with the crop. Death of northern jointvetch plants may not occur for five (5) weeks or more after application.

LockDown retro is a two-component product. Component A consists of a water soluble spore rehydrating agent that allows the spores to take up water to facilitate germination. Component B consists of a water suspendible, dried fungal spore granular formulation of *Colletotrichum gloeosporioides* f. sp. aeschynomene that is suspended in water just before use. Both component A and component B are sold in a 2-gallon plastic mixing container with lid.

DIRECTIONS FOR APPLICATION OF *LockDown retro* TO CONTROL NORTHERN JOINTVETCH

APPLICATION RATE: One bag of formulated C.g.a. spores (component B) plus one quart of rehydrating agent (component A) mixed in water will treat 10 acres

WHEN TO APPLY *LockDown retro.* At any vegetative state of rice growth if the northern jointvetch is at least 8 inches tall. Rice fields should be flooded before application.

Remarks: Do not apply *LockDown retro* after rice heads emerge from the boot: spraying at this time will not completely prevent seed production of northern jointvetch.

Timing: Apply *LockDown retro when the leaves of northern jointvetch are moist and are expected to remain so for at least 12 hours. Following LockDown retro application, free moisture or a relative humidity above 80%. and air temperatures of approximately 80F are necessary for at least 12 hours for development of the highest degree of infection. These conditions usually prevail during the evening in rice fields.*

Note: **Do not apply *LockDown retro* during periods when rice is under moisture stress or when drying conditions are likely to occur. *Do not apply LockDown retro to Northern Jointvetch plants previously treated with phenoxy herbicides.* For best results, do not apply fungicides for at least one week before or following *LockDown retro* applications.**

COMPATIBILITY: *LockDown retro* contains live fungal spores; exercise care in handling the spores. *LockDown retro is not compatible with liquid nitrogen fertilizers, insecticides, fungicides, and herbicides such as* 2,4-D and acifluorfen (Blazer®). Germination of the spores is reduced if combined with these materials.

APPLICATION EQUIPMENT: Chemical pesticide residues that remain in the spray tank and boom may kill the live *LockDown retro* spores. **Therefore, before use of *LockDown retro*, thoroughly clean the spray tank, boom, nozzles and screens with an activated charcoal water suspension.** Prepare activated charcoal powder following manufacturer's recommendations for use. Thoroughly rinse the spraying system to remove all the charcoal water suspension prior to the application of *LockDown retro*. Be sure the sprayer is calibrated to deliver proper spray volume with a uniform spray pattern, as thorough coverage of the northern jointvetch leaves and stems with *LockDown retro* is essential. Check frequently during application for output of desired volume. Use proper nozzle discs and nozzle arrangements on the spray boom. Use 50-mesh or coarser screens in strainers, nozzles and suction units. Clean nozzles and screens frequently. Wind may cause uneven coverage. Do not apply when wind velocity is greater than 10 miles per hour.

MIXING INSTRUCTIONS: *LockDown retro* contains dried fungal spores that must be rehydrated just before use. Use the following sequence of steps to prepare the spores for application to 10 ***acres***:

1) Clean spray tank, boom, nozzles and screens (see above) with activated charcoal
2) Fill the spray tank one-half full with water and begin agitation
3) Add 1 quart of rehydrating solution **(component A)** to the 2-gallon container
4) Rinse the empty 1-quart package by filling it twice with water and adding the two quarts of rinse water to the 2-gallon container already containing one quart of the rehydrating agent. Stir until thoroughly mixed.
5) Empty one bag of formulated C.g.a. spores **(component B)** into the hydrating solution/water mix
6) Stir vigorously with mixing paddle until material **(component B)** is completely in suspension
7) Pour suspension into spray tank
8) For best results, maintain continuous agitation during spraying

For more than 10 acres, see table below to determine amount(s) of component A and component B to use

SPRAY APPLICATION: For best results. *LockDown retro* should be applied by aerial application with fixed-wing or helicopter aircraft. Use a recommended spray volume of at least **10 gallons** of water per acre.

Sample set-up and instructions for LockDown retro

Acres to be treated	*Amount of rehydrating agent* ***Component A***	*# of bags formulated spores* ***Component B***	*Minimum total spray volume*	*Maximum total spray volume*
10	1 quart	1	100 gal	150 gal
20	2 quarts	2	200 gal	300 gal
30	3 quarts	3	300 gal	450 gal
40	4 quarts	4	400 gal	600 gal

Spray volumes other than those listed may decrease effectiveness of the LockDown ~~retro~~ product
retro

STORAGE

Keep *LockDown retro* cold by holding on ice or refrigerated prior to use. Do not allow to freeze. Any unused portions of component A or B NOT mixed (still contained in bags or packages) should be refrigerated for no more than four weeks to optimize freshness and viability. *LockDown retro* contains viable fungal spores. To maximize spore viability. do not allow ***LockDown retro*** to freeze (fall below 32 F) or to be held for 12 hours or more at temperatures above 95 F either outside or contained in the spray tank.

MONITORING EFFECTIVENESS OF *LOCKDOWN retro*

For 7 days following application, the grower should frequently examine the northern jointvetch plants to determine if disease lesions are developing. As with other pesticides. effectiveness of *LockDown retro* may be reduced by mistakes in application, fertilization, cultivation and management practices. Results will be affected by extremes in weather. soil moisture and temperatures. If the disease lesions caused by *LockDown retro* do not reach one-half (1/2) inch in diameter and do not encircle the stems of the northern jointvetch plants within 14 days after treatment, a second application of *LockDown retro* is recommended. See Application Rate and Recommendations Sections for *LockDown retro* amounts and timing.

CROP ROTATION

Any food, feed and forage crops ***except peas*** may be sown in *LockDown retro* -treated fields immediately after harvest of rice. Peas may be planted following the harvesting of a non- *LockDown retro* treated crop.

SPRAY DRIFT ADVISORY

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 and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or the 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, they should be observed

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 3/4 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 largest 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 downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path 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.

Ground applications are not prohibited; however, they may be impractical in most rice situations where northern jointvetch is found, with the exception of special areas such as levees where ground applications are practical. Use a spray volume of at least 10-15 gallons of water per acre.

DISPOSAL OF PESTICIDE AND CONTAINER

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

Pesticide Disposal: Pesticide spray mixture or rinsate that can not be used according to label instructions must be disposed of according to Federal, State, or local procedures under the Resource Conservation and Recovery Act.

Container Disposal: When empty, dispose of in an incinerator or according to approved Federal, State or local procedures under the Resource Conservation and Recovery Act. Triple rinse plastic containers (or equivalent) and offer for recycling or reconditioning, or dispose of in a sanitary landfill or by incineration if permitted by State or local authorities. If burned, stay out of smoke. Do not reuse plastic container.

DISCLAIMER

By using this product, user accepts the following conditions, warranty, disclaimer of warranties and limitations of liability.

CONDITIONS

The directions for use of this product are believed to be adequate and should be followed carefully. However, because of extreme weather and soil conditions, manner of use and other factors beyond *ARI, Inc's* control, it is impossible for *ARI, Inc.* to eliminate all risks associated with use of this product. As a result, crop injury or ineffectiveness is always possible.

WARRANTY AND DISCLAIMER OF WARRANTIES

ARI, Inc. warrants that this material conforms to the description and conditions on the label and is reasonably fit for use under the directions and conditions of this label.

LIMITATIONS OF LIABILITY

The liability of *ARI, Inc.* or Seller for damages arising from the use of this product is limited to the replacement cost of the product used and shall not include any consequential damages such as loss of profits or other values.

NO CHANGES AUTHORIZED

No one (other than an authorized agent of *ARI, Inc.*) is authorized to make any other warranty, or change the above conditions, disclaimer or limitations, and then only if in writing and with a specific reference to this label.

ARI, INC. AND SELLER MAKE NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS, MERCHANTABILITY OR OTHERWISE.

Outside Labeling

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LockDown™ *retro*

For selective postemergence control of Northern Jointvetch (Curly Indigo) in Rice.

LockDown *retro* **is a two component product**
***Component A:* a fungal spore rehydrating agent**
Component B: Active Ingredient plus other ingredients

Active Ingredient: *Colletotrichum gloeosporioides* f. sp *aeschynomene* and fermentation medium	45.0 %
Other Ingredients:	55.0%
Total :	100.0%

Contains at least 1 X 10^9 viable fungal spores (CFU's)/gram of product

750 grams (1 bag) of component B plus 1 quart of component A will treat 10 acres of rice

CAUTION

KEEP OUT OF REACH OF CHILDREN

EPA Reg. No.:
EPA Establishment No.: 082681-AR-001

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User must read directions completely before using this product