

LockDown™ retro

Biological Herbicide

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. *aeschyromene*

and fermentation medium45.0 %

Other Ingredients:55.0%

Total :100.0%

Contains at least 1 X 10⁹ viable fungal spores per gram of product

KEEP OUT OF REACH OF CHILDREN
CAUTION

FIRST AID	
If in eyes	<ul style="list-style-type: none"> 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
<p>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.</p>	

THIS PRODUCT IS LABELED FOR USE ONLY IN THE STATES OF ARKANSAS, LOUISIANA,
MISSISSIPPI, TEXAS AND MISSOURI

EPA Reg. No.: 82681-1

EPA Establishment No.: 082681-AR-001

Natural Industries, Inc.
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Net Contents

- 250 to 1000 grams of formulated C.g.a. spores (1-4 bags with each bag containing 250 grams)
- 1 to 4 quarts of rehydrating agent in 1-qt packages

NOTE-250 grams 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, long sleeve shirt, long pants, waterproof gloves and shoes plus socks.

DIRECTIONS FOR USE

THIS PRODUCT MAY ONLY BE APPLIED IN THE STATES OF ARKANSAS, LOUISIANA, TEXAS, MISSOURI & 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 virginica* (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 abundant 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 plastic mixing container with lid.

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

APPLICATION RATE: One bag (250 grams) 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 (but no more than 24 inches). -Flood rice fields before application.

Remarks: Do not apply *LockDown retro* after rice heads emerge from the boot: spraying at this time may not allow enough time for *LockDown retro* to damage the northern jointvetch enough to prevent seed production.

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. **Apply as close to dusk as possible.**

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. 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. 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) Open the 3.5-5-gallon plastic container that holds the *LockDown retro* product and empty 1 quart of rehydrating solution (**component A**) to the container
- 4) Use the now emptied 1 quart bottle to measure a total of 2 quarts of water and add to the 3.5-5-gallon plastic mixing container already containing 1 quart of the rehydrating agent from step 3. Stir until thoroughly mixed
- 5) Empty 1 bag of formulated C.g.a. spores (**component B**) into the hydrating solution/water mix in the 3.5-5-gallon plastic mixing container
- 6) Stir vigorously with mixing paddle until material (**component B**) is completely in suspension
- 7) Pour suspension into spray tank
- 8) Finish filling spray tank and continue agitation
- 9) Maintain agitation during application.

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

SPRAY APPLICATION: *LockDown retro* is to 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

<i>Acres to be treated</i>	<i>Amount of rehydrating agent Component A</i>	<i># of bags formulated spores Component B</i>	<i>Minimum total spray volume</i>	<i>Maximum total spray volume</i>
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

STORAGE

If not used the day of arrival, 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.

Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, nontarget crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals.

For ground applications, apply with nozzle height no more than 4 feet above the ground or crop canopy and when wind speed is 10 mph or less at the application site as measured by an anemometer. Use coarser spray according to ASAE 572 definition for standard nozzles or VMD for spinning atomizer nozzles. Use this section only if there are ground applications.

For aerial applications, the boom width must not exceed 75% of the wingspan or 90% of the rotary blade. Use upwind swath displacement and apply only when wind speed is 3 -- 10 mph as measured by an anemometer. Use coarser spray according to ASAE 572 definition for standard nozzles or VMD for spinning atomizer nozzles. If application includes a no-spray zone, do not release spray at a height greater than 10 feet above the ground or the crop canopy.

For overhead chemigation, apply only when wind speed is 10 mph or less.

The applicator also must use all other measures necessary to control drift.

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

To the extent allowed by state law, 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.