



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs

Registration Division (7505P)

1200 Pennsylvania Ave., N.W.

Washington, D.C. 20460

## NOTICE OF PESTICIDE:

Registration  
 Reregistration

(under FIFRA as amended)

EPA Reg. Number

51036-  
415

Date of Issuance

2-27-07

Term of Issuance:

Unconditional

Name of Pesticide Product:

Laddok 5L

Name and Address of Registrant (include ZIP Code):

Micro Flo Company, LLC  
 P.O. Box 772099  
 Memphis, TN 38117

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

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

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

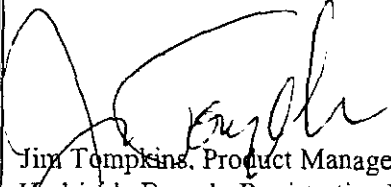
This product is reregistered in accordance with FIFRA section 4(g)(2)(C) provided you agree in writing to:

1. Change the Hazards to Humans and Domestic Animals to "Corrosive. Causes irreversible eye damage. Harmful if swallowed. Harmful if absorbed through skin. Harmful if inhaled. Do not get in eyes or on clothing. Avoid contact with skin. Avoid breathing spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals."
2. The Restricted Use Pesticide statement should be enclosed in a box and must include "Due to eye irritation."
3. To the PPE add "Wear protective eyewear.". To the Engineering Controls section add "Need not wear Chemical-resistant gloves and protective eyewear when using an enclosed cab except required in 40 CFR 170(d)(5).
4. On page 2 remove the title "User Safety Requirements" that occurs in

front of "Follow manufacture's instructions...".

5. On page 11, remove the reference to Bladex 90 (#4) under the section General Tank Mix.
6. To the Conditions of Sale and Warranty change "All such risks..." to "To the extent consistent with applicable law, all such risks...", "Micro Flo makes no other..." to "To the extent consistent with applicable law, Micro Flo makes no other...", and "In no case shall..." to "To the extent consistent with applicable law, in no case shall...".
7. On page 3 of the label change "This chemical is known..." to "Bentazon is known...".
8. On page 6 of the label remove "These requirements do not apply to forestry applications, public health uses or to applications using dry formulations."

Signature of Approving Official.



Jim Tompkins, Product Manager (25)  
Herbicide Branch, Registration Division (7505P)

Date:

2/27/07

EPA Form 8570-6

You will submit one copy of your final printed labeling before you release the product for shipment. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). A stamped copy of labeling is enclosed for your records.

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RESTRICTED USE PESTICIDE  
DUE TO GROUND AND SURFACE WATER CONCERNS. FOR RETAIL SALE TO AND USE ONLY BY  
CERTIFIED APPLICATORS OR PERSONS UNDER THEIR DIRECT SUPERVISION, AND ONLY FOR  
THOSE USES COVERED BY THE CERTIFIED APPLICATOR'S CERTIFICATION.

**Laddok® 5L**  
Herbicide

For selective postemergence broadleaf weed control in corn (field, pop, seed, silage, and sweet) and  
sorghum (grain and forage)

**ACTIVE INGREDIENT:**

Sodium salt of bentazon* [3-(isopropyl)-1H-2,1,3-benzothiadiazin-4(3H)-one,2,2-dioxide] .....	27.0%
Atrazine* (2-chloro-4-ethylamino-6-isopropylamino-s-triazine) .....	24.4%
Related triazines .....	0.6%
<b>INERT INGREDIENTS:</b> .....	<b>48.0%</b>
<b>TOTAL</b> .....	<b>100.0%</b>

\*Equivalent to 2.5 pounds of bentazon and 2.5 pounds of total triazines per gallon

**KEEP OUT OF REACH OF CHILDREN.**  
**DANGER / PELIGRO**

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 complete Precautionary Statements, Statement of Practical Treatment,  
Directions For Use, and Conditions of Sale and Warranty.

Mix Well before using.

<b>FIRST AID</b>	
If in Eyes	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 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>
If Swallowed	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
If on Skin or Clothing	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
If Inhaled	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>HOT LINE NUMBER</b>	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-832-4357 for emergency medical treatment information.	

EPA Reg. No. 51036-415  
Est. No. 11773-IA-01  
AD xxxxxx  
Net contents: 2.5 gallons (9.46 liters)  
2099

MANUFACTURED FOR:  
MICRO FLO COMPANY LLC  
P.O. Box 772099  
MEMPHIS, TENNESSEE 38117-  
ACCEPTED  
with COMMENTS  
in EPA Letter Dated

2-27-07

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

51036-415

Precautionary Statements  
Hazards to Humans and Domestic Animals  
DANGER

Corrosive. Causes irreversible eye damage, Harmful if swallowed or absorbed through the skin. Do not get in eyes or on clothing. Avoid contact with skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

EMERGENCY TELEPHONE NUMBERS:

- (800) 424-9300 CHEMTREC (transportation and spills)
- (800) 832-HELP (4357) Poison Control Center (human health)
- (800) 345-4735 ASPCA (animal health)

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are natural rubber or Neoprene rubber. If you want more options, follow the instructions for category C on an EPA chemical-resistance category selection chart.

Mixers, loaders, applicators, flaggers, and other handlers must wear:

1. Long-sleeved shirt and long pants
2. Chemical-resistant gloves, such as natural or Neoprene rubber.
3. Shoes plus socks, and
4. Chemical-resistant apron, when mixing/loading, cleaning up spills, or cleaning equipment, or otherwise exposed to the concentrate.

See engineering controls for additional requirements

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.

ENGINEERING CONTROLS

Mixers and loaders supporting aerial applications at a rate greater than 3 lbs ai/A must use a closed system that meets the requirements for dermal protection listed in the Worker Protection Standard (WPS) for Agricultural Pesticides [40 CFR 170.240(d)(4)] and must:

- wear the personal protective equipment required for mixers and loaders
- wear protective eyewear if the system operates under pressure, and
- be provided and have immediately available for use in an emergency, such as a spill or equipment breakdown: chemical resistant footwear.

Pilots must use an enclosed cockpit in a manner that is consistent with the WPS for Agricultural Pesticides [40 CFR 170.240 (d)(6)]. Pilots must wear the PPE required on this labeling for applicators, however, they need not wear chemical-resistant gloves when using an enclosed cockpit.

Flaggers supporting aerial applications must use an enclosed cab that meets the definition on the Worker Protection Standard for Agricultural Pesticides [40 CFR 170.240 (d)(5)] for dermal protection.

When applicators use enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(5)], the handler PPE requirements may be reduced or modified as specified in the WPS.



USER SAFETY RECOMMENDATIONS

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Users should remove clothing/PPE immediately if the 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.

ENVIRONMENTAL HAZARDS

Atrazine can travel (seep or leach) through the soil and can enter ground water which may be used as drinking water. Atrazine has been found in ground water. Users are advised not to apply atrazine to sand and loamy sand soils where the water table (ground water) is close to the surface and where these soils are very permeable; i.e. well-drained. Your local agricultural agencies can provide further information on the type of soil in your area and the location of ground water.



Product must not be mixed or loaded within 50 feet of intermittent streams and rivers, natural or impounded lakes and reservoirs. Product must not be applied within 66 feet of points where field surface water runoff enters perennial or intermittent streams and rivers or within 200 feet of natural or impounded lakes and reservoirs. If this product is applied to highly erodible land, the 66 foot buffer or setback from runoff entry points must be planted to crop, or seeded with grass or other suitable crop.

Product must not be mixed or loaded, or used within 50 feet of all wells, including abandoned wells, drainage wells, and sink holes. Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers within 50 ft. of any well are prohibited, unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or wash water, and rain water that may fall on the pad. Surface water shall not be allowed to either flow over or from the pad which means the pad must be self contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above-specified minimum containment capacities do not apply to vehicles when delivering pesticide to the mixing/loading sites.

Additional State imposed requirements regarding well-head setbacks and operational area containment must be observed.

One of the following restrictions must be used in applying atrazine to tile-outletted fields containing standpipes:

- Do not apply within 66 feet of standpipes in tile-outletted fields.
- Apply this product to the entire tile-outletted field and immediately incorporate it to a depth of 2-3 inches in the entire field.
- Apply this product to the entire tile-outletted field under a no-till practice only when a high crop residue management practice is practiced. High crop residue management is described as a crop management practice where little or no crop residue is removed from the field during and after crop harvest

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This pesticide is toxic to aquatic invertebrates. 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 apply when weather conditions favor drift from treated areas. Runoff and drift from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment wash water.

**DIRECTIONS FOR USE**

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

ANY USE OF THIS PRODUCT IN AN AREA WHERE USE IS PROHIBITED IS A VIOLATION OF FEDERAL LAW. Before using this product, you must consult the Atrazine Watershed Information Center (AWIC) to determine whether use of this product is prohibited in your watershed. AWIC can be accessed through [www.atrazine-watershed.info](http://www.atrazine-watershed.info), or 1-866-365-3014. If use of this product is prohibited in your watershed, you may return the product to your point of purchase or contact [redacted] for a refund.

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.

All applicable directions, restrictions, precautions and Conditions of Sale and Warranty are to be followed. This labeling must be in the user's possession during application.

Where there are state/local requirements regarding atrazine use (including lower maximum rates and/or higher setbacks) that are different from the label, the more restrictive/protective requirements apply.

**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:

1. coveralls
2. shoes plus socks, and
3. chemical-resistant gloves, such as any waterproof material.

**STORAGE AND DISPOSAL**

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

Pesticide Storage: Do not store below 10° F or above 100° F.

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

Container Disposal:

- Plastic Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.





I. General Information

Laddok® 5L herbicide is intended for the postemergence control of a broad spectrum of broadleaf weeds. Laddok 5L does not control grasses.

Mode of Action

Laddok 5L is a non-ALS product that inhibits photosynthesis in broadleaf weeds mainly through contact action.

Crop Tolerance

Corn (field, pop, seed, silage, and sweet) and sorghum (forage and grain) are tolerant to Laddok 5L at all stages of growth. Leaf speckling may occur, but plants generally outgrow this condition within 10 days. New growth is normal and crop vigor is not reduced. Seed producers should consult the seed company regarding the tolerance of inbred lines of seed population to Laddok 5L.

Irrigation

In irrigated areas, it may be necessary to irrigate before treatment to ensure active weed growth.

Coverage

Weeds must be thoroughly covered with spray because dense leaf canopies shelter smaller weeds and can prevent adequate spray coverage.

Cultivation

Do not cultivate within 5 days before or 7 days after applying Laddok 5L. Cultivating 7 days after treatment may help provide season-long control.

Cleaning Spray Equipment

Clean spray equipment thoroughly using a strong detergent or commercial sprayer cleaner according to the manufacturer's directions before and after applying this product.

II. Application Instructions

Apply Laddok 5L at the rates recommended in Table 1 unless instructed differently by Section VII. Crop-Specific Information. Applications can be made to actively growing weeds as aerial, broadcast, band, or spot spray applications at the rates and growth stages listed in Table 1. The most effective control will result from making postemergence applications of Laddok 5L early, when weeds are small. Delaying application permits weeds to exceed the maximum size stated and will prevent adequate control. Postemergence application to corn and sorghum must be made before corn and sorghum reach 12 inches in height.

Air Application

Water Volume: Use a minimum of 5 gallons of water per acre and increase water volume to at least 10 gallons of water per acre if grass foliage or crop canopy is dense. AMS can be used provided a minimum of 10 gallons of solution is applied per acre. AMS is not recommended because of the potential precipitation problems in reduced water volumes. Use AMS only if the source has been demonstrated to be successful in local experience.

Spray Pressure: Use up to 40 psi.

Application Equipment: Use only diaphragm-type nozzles that produce cone or fan spray patterns.

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Nozzle Height : Maximum of 10 feet above crop

Nozzle Orientation: Nozzles must be oriented to discharge straight back with the air stream (opposite the direction of travel of the aircraft) or at some angle between straight back and straight down. Nozzles must be located no farther out than 3/4 the distance from the center of the aircraft to the end of the wing or rotor.

#### Special Directions for Aerial Application

To obtain uniform coverage and to avoid drift hazards, follow these guidelines:

- Do not apply Laddok 5L by aircraft when wind is blowing more than 10 mph. Use coarse sprays (larger droplets) as they are less likely to drift.
- Do not apply Laddok 5L by air if ornamental or sensitive nontarget crops such as soybeans, peanuts, cotton, sugar beets, sunflowers, or okra are within 200 feet downwind.

The applicator must follow the most restrictive use cautions to avoid drift hazards, including those found in this labeling as well as applicable state and local regulations and ordinances.

#### SPRAY DRIFT MANAGEMENT

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 to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed 3/4 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.

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information.

#### AERIAL DRIFT REDUCTION ADVISORY INFORMATION

##### Importance Of 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 Inversion section of this label).

##### 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- Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. 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 backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce the 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 larger droplets than other nozzle types.



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- 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 cross-wind, the swath will be displaced downwind. 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 drift.

**Temperature And Humidity**

When making applications in low relative humidity, set up equipment to product 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 temperature 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 connected 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 only be applied 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.)

**Ground Application (Banding)**

Follow Ground Application (Broadcast) instructions for band applications. When applying Laddok 5L by banding, determine the amount of herbicide and water volume needed using the following formula:

$$\frac{\text{Bandwidth in inches}}{\text{Row width in inches}} \times \text{Broadcast rate per acre} = \text{Banding herbicide rate per acre}$$

$$\frac{\text{Bandwidth in inches}}{\text{Row width in inches}} \times \text{Broadcast volume per acre} = \text{Banding water volume per acre}$$

**GROUND APPLICATION (BROADCAST)**

**Water Volume:** Use 10-20 gallons of spray solution per broadcast acre for optimal performance. Increase water volume up to 50 gallons if crop or weed foliage is dense.

**Spray Pressure:** Use a minimum of 40 psi (measured at the boom, not at the pump or in the line).

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Note: When using the lower water volume (i.e., 10 gallons per acre) or when crop and weed foliage is dense, use a minimum of 60 psi for best results.

Application Equipment: Use standard high-pressure pesticide flat fan or hollow cone nozzles spaced up to 20 inches apart. Do not use flood, whirl chamber, or controlled droplet applicator (CDA) nozzles as erratic coverage can cause inconsistent weed control. Do not use selective application equipment such as recirculating sprayers or wiper applicators.

Table 1. Application Rates for Corn and Sorghum:

Weeds Controlled (including triazine -- and ALS-resistant biotypes)	1.33 Pints Per Acre		1.67 Pints Per Acre		2.33 Pints Per Acre	
	Leaf Stage	Maximum Height	Leaf Stage	Maximum Height	Leaf Stage	Maximum Height
Anoda, Spurred	-	-	-	-	Up to 6	3"
Beggarticks	-	-	-	-	Up to 6	6"
Buckwheat, Wild	-	-	Up to 4	3"	4-6	5"
Burcucumber	-	-	-	-	3	3"
Cocklebur <sup>a</sup>	2-4 <sup>a</sup>	3"	2-10 <sup>a</sup>	8"	2-10 <sup>a</sup>	8"
Dayflower	-	-	-	-	Up to 6	4"
Devilsclaw	-	-	-	-	Up to 6	3"
Groundsel <sup>b</sup> , Common	-	-	Up to 4	2"	Up to 6	4"
Jimsonweed	2-4	3"	Up to 6	6"	6-10	8"
Kochia	-	-	-	4"	-	4"
Ladysthumb	2-6	4"	Up to 10	10"	10-14	12"
Lambsquarters <sup>b</sup> , Common	2-6	2"	Up to 8	5"	8-12	8"
Mallow, Venice	-	-	Up to 8	4"	Up to 8	4"
Morningglory, Annual	-	-	Up to 4	4"	4-6	6"
, Smallflower	-	-	Up to 4	4"	4-6	6"
Mustard, Wild	-	-	Up to 6	4"	6-10	8"
Nightshade, Black	-	-	2-4	1"	2-4	1"
, Eastern Black	-	-	2-4	1"	2-4	1"
Pigweed, Redroot <sup>b</sup>	2-4	2"	Up to 10	6"	Up to 10	6"
, Smooth <sup>b</sup>	2-4	2"	Up to 10	6"	Up to 10	6"
Ragweed, Common	-	-	Up to 4	4"	4-7	5"
, Giant	-	-	Up to 4	4"	4-6	6"
Sida, Prickly (Teaweed)	-	-	Up to 4	2"	Up to 6	3"
Smartweed, Pennsylvania	2-6	4"	Up to 10	10"	10-14	12"
Starbur, Bristly	-	-	-	-	Up to 4	2"
Sunflower, Wild	-	-	Up to 5	6"	4-6	8"
Velvetleaf <sup>c</sup>	2-4	3"	Up to 6 <sup>c</sup>	6"	Up to 8 <sup>c</sup>	8"
Waterhemp, Common	-	-	Up to 8	2"	6-9	4"
, Tall	-	-	Up to 8	2"	6-9	4"
Bindweed, Field <sup>e</sup>						8-10" long
Nutsedge, Yellow <sup>d,e</sup>						6-8" tall
Thistle, Canada <sup>d,e</sup>						8" tall to bud stage

- a Do not treat earlier than leaf stage shown, and do not count cotyledon leaves.
- b Triazine-resistant biotypes of Amaranthus (pigweeds), common lambsquarters, and common groundsel can be controlled with Laddok<sup>®</sup> 5L herbicide.
- c Adding UAN or AMS will control velvetleaf at the 8-leaf stage or 8 inch maximum height using 1.67 pints per acre, or at the 10-leaf stage or 10-inch maximum height using 2.33 pints per acre.
- d Add oil concentrate or Dash<sup>®</sup> HC spray adjuvant according to Additive Information. For best results in corn for Canada thistle and yellow nutsedge, follow with a second application of Basagran<sup>®</sup> herbicide 7-10 days later, or cultivate 7-14 days after application in corn and sorghum.
- e For suppression only.

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Table 2. Laddok 5L Application Rate Conversion Chart

Use the chart below to calculate the amount of Laddok 5L herbicide required to treat the acreage listed. Select the rate of Laddok 5L required to control weeds according to the Application Rate Table (Table 1). To calculate the number of gallons required to treat a specified acreage, multiply the number of acres by the multiplier listed below. The multiplier is equivalent to the number of gallons required to treat 1 acre.

Laddok 5L Rate Per Acre	Gallons of Laddok 5L					Your Acreage
	Multiplier	5 Acres	10 Acres	50 Acres	100 Acres	
1.33 Pints	0.166	0.83	1.66	8.3	16.6	
1.67 Pints	0.208	1.04	2.08	10.40	20.8	
2.33 Pints	0.291	1.45	2.91	14.55	29.1	

### III. Additives

To achieve consistent weed control, one of the following additives are needed: ammonium sulfate, Dash® HC spray adjuvant, crop oil concentrate, or urea ammonium nitrate. AMS (or UAN) should be used when velvetleaf is the primary target weed. Additives may cause some leaf burn, but new growth is normal and crop vigor is not reduced. The potential for leaf burn is increased when relative humidity and temperature are high. See Table 3. Additive Rate Per Acre for additive rates.

#### Ammonium Sulfate (AMS)

AMS is a dry, granular nitrogen-source fertilizer. Use only fine feed-grade or spray-grade AMS because inferior grades of AMS do not dissolve adequately and can plug spray nozzles. Micro Flo Company does not recommend applying AMS if applied in less than 10 gallons per acre because of potential problems with precipitation in reduced volumes. Use AMS only if it has been demonstrated to be successful in local experience. Refer to Air Application Instructions for AMS use recommendations.

#### Dash HC or Oil Concentrate

A crop oil concentrate must contain either a petroleum or vegetable oil base and must meet all of the following criteria:

- be nonphytotoxic,
- contain only EPA-exempt ingredients,
- provide good mixing quality in the jar test and
- be successful in local experience.

The exact composition of suitable products will vary; however, vegetable and petroleum oil concentrates should contain emulsifiers to provide good mixing quality. Highly refined vegetable oils have proven more satisfactory than unrefined vegetable oils.

Dash HC may be substituted as an oil concentrate, however, for some crops and tank mixes, Dash HC is not recommended. For additional information, see Compatibility Test for Mix Components.

Some oil concentrates cause excessive leaf burn. Refer to your supplier for information concerning successful local experience before purchasing any oil concentrate.

#### Urea Ammonium Nitrate (UAN)

Commonly referred to as 28%, 30% or 32% nitrogen solution, UAN may be added in place of other spray additives to improve weed control. Because most nitrogen solutions are mildly corrosive to galvanized, mild steel, and brass spray equipment, rinse the entire spray system with water soon after use. Do not use brass or aluminum nozzles when spraying UAN.

#### Oil Concentrate + Nitrogen Solution

A nonphytotoxic oil concentrate (as referred to above) plus a nitrogen solution (UAN or AMS) can be added to the spray tank with Laddok® 5L herbicide.

Table 3. Additive Rate Per Acre

Additive	Ground Application	Air Application
AMS	2.5 pounds	2.5 pounds
Dash HC	1 pint	0.5 pint
Oil Concentrate	2 pints	1 pint
UAN Solution	4-8 pints	4 pints
Oil Concentrate + Nitrogen	0.5-1 pint + 2-4 pints of UAN or 1-2 Pounds of AMS	-

#### Compatibility Test for Mix Components

Add components to a jar in the following sequence using 2 teaspoons for each pound or 1 teaspoon for each pint of recommended label rate per acre.

- 1) Water - For 20 gallons per acre spray volume, use 3.3 cups (800 ml) of water. For other spray volumes, adjust rates accordingly. Use only water from the intended source at the source temperature
- 2) Products in PVA bags (if applicable): - Cut an opening in the water-soluble PVA bag just large enough to use a teaspoon for measuring purposes. Use the opened water-soluble PVA bag first when preparing spray solution. Cap the jar and invert 10 cycles.
- 3) Water-dispersible products: - such as Laddok 5L, dry flowables, wettable powders, suspension concentrates, or suspo-emulsions. Cap the jar and invert 10 cycles.
- 4) Water-soluble products: - Cap the jar and invert 10 cycles.
- 5) Emulsifiable concentrates: - (Dash HC or oil concentrate when applicable) Cap the jar and invert 10 cycles.
- 6) Water-soluble additives: - (AMS or UAN when applicable) Cap the jar and invert 10 cycles.
- 7) Let the solution stand for 15 minutes.
- 8) Evaluate the solution for uniformity and stability. The spray solution should not have free oil on the surface, nor fine particles that precipitate to the bottom, nor thick (clabbered) texture. Do not use any spray solution that could clog spray nozzles.

#### IV. Mixing Order

- 1) Water: Begin by agitating a thoroughly clean sprayer tank three-quarters full of clean water.
- 2) Agitation: Maintain constant agitation throughout mixing and application.
- 3) Products in PVA bags: Rinse the tank before adding any material in PVA bags. Wait until all water-soluble PVA bags have fully dissolved and the herbicide is evenly mixed in the spray tank before continuing. If an inductor is used, rinse it thoroughly after the component has been added.
- 4) Water-dispersible products: (Laddok 5L herbicide, dry flowables, wettable powders, suspension concentrates, or suspo-emulsions). If an inductor is used, rinse it thoroughly after the component has been added.
- 5) Water-soluble products: If an inductor is used, rinse it thoroughly after the component has been added

- 6) Emulsifiable concentrates: (Dash® HC spray adjuvant or oil concentrate when applicable) If an inductor is used, rinse it thoroughly after the component has been added.
- 7) Water-soluble additives: (AMS or UAN when applicable). If an inductor is used, rinse it thoroughly after the component has been added.
- 8) Remaining quantity water

For more information, refer to Section V. General Tank Mixing Information

### V. General Tank Mix

See Section VII. Crop-Specific Information for more details. Read and follow the applicable Restrictions and Limitations and Directions For Use on all products involved in tank mixing. The most restrictive labeling applies to tank mixes.

#### Tank Mix Partners/Components

The following products may be tank mixed with Laddok 5L according to the specific tank mixing instructions in this label and respective product labels.

- |               |                |                 |
|---------------|----------------|-----------------|
| 1. Asana® XL  | 6. Dimethoate  | 11. Poast HC    |
| 2. Atrazine   | 7. Furadan® 4F | 12. Poast Plus® |
| 3. Banvel®    | 8. Lorsban® 4E | 13. Pounce®     |
| 4. Bladex® 90 | 9. Malathion   | 14. Stinger®    |
| 5. Clarity®   | 10. Poast®     | 15. 2,4-D LVE   |

#### Mixing with Insecticides

It is permissible to tank mix an insecticide with Laddok 5L if the proper application timing of the insecticide coincides with the application timing for Laddok 5L. Adding an insecticide as a tank mix to Laddok 5L may increase the potential for crop injury.

Micro Flo Company does not recommend using tank mixes other than those listed on Micro Flo's labeling. Physical incompatibility, reduced weed control, or crop injury may result from mixing Laddok 5L with other pesticides (fungicides, herbicides, insecticides, or miticides), additives, or fertilizers. Local agricultural authorities may be a source of information when using other than Micro Flo Company recommended tank mixes.

### VI. General Restrictions and Limitations - All Crops

- Maximum seasonal use rate: Do not apply more than a total of 2 pounds of bentazon a.i. from all sources per acre, per calendar year. For postemergence applications, if there has been no previous soil application to that crop, the maximum rate of atrazine from all sources is 2 pounds of active ingredient per acre. If there has been a previous soil application to that crop, do not apply more than a total of 2.5 pounds of atrazine a.i. from all sources per acre, per calendar year.
- Do not make more than one application of Laddok® 5L herbicide per season.
- Crop Rotation Restriction: Do not plant sugar beets or sunflowers the season following application. Do not plant oats the season following application of Laddok 5L in soil with a calcareous surface layer. In the intermountain region of the United States, do not plant any other crop the year following the application of Laddok 5L except corn or sorghum.
- Rainfast period: Rainfall or overhead irrigation soon after application may reduce the effectiveness of Laddok 5L.
- Stress: Do not apply to weeds or crops under stress such as stress due to lack of moisture, unseasonable cold weather hail damage, flooding, herbicide injury, mechanical injury, or widely fluctuating temperatures, or when crop is wet and succulent from recent rainfall as crop injury or unsatisfactory control may result.

- Do not apply to crops that show injury (leaf phytotoxicity or plant stunting) produced by any other prior herbicide applications, because this injury may be enhanced or prolonged.
- Do not mix or apply Laddok 5L with any other fertilizer except as specifically recommended on this label.
- Do not use selective application equipment such as recirculating sprayers, wiper applicators, or shielded applicators.
- Do not apply this product through any type of irrigation system.



- When tank-mixing or sequentially applying atrazine or products containing atrazine to crops other than corn or sorghum, the total pounds of atrazine applied (lbs. ai/A) must not exceed the specific seasonal rate limits as noted in the use directions.
- Postemergence application to corn and sorghum must be made before corn and sorghum reaches 12 inches in height.
- Pre-Harvest intervals (PHI):
  - Field corn forage uses: 60-day PHI
  - Sweet corn forage uses: 45-day PHI
  - Preemergent sorghum forage uses: 60-day PHI
  - Postemergent sorghum forage uses: 45-day PHI
- Maximum broadcast application rates for corn and sorghum must be as follows:
  - If no atrazine was applied prior to corn/sorghum emergence, apply a maximum of 2 lb ai/A broadcast.
  - If a postemergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 lb ai/A per calendar year.
  - Apply a maximum of 2.0 lb ai/A as a single preemergence application on soils that are not highly erodible or on highly erodible soils if at least 30% of the soil is covered with plant residues; or
  - Apply a maximum of 1.6 lb ai/A as a single preemergence application on highly erodible soils if < 30% of the surface is covered with plant residues; or 2.0 lb ai/A applied postemergence.

Table 4. Crop-Specific Restrictions and Limitations

Crop	Maximum Rate Per Acre Per Application	Maximum Rate Per Acre Per Season	Livestock Grazing Or Feeding	Aircraft Application
Corn	2.33 pints	2.33 pints	Yes*	Yes
Sorghum	2.33 pints	2.33 pints	Yes*	Yes

\* -Do not graze treated area or feed treated forage to livestock for 21 days after application.

VII. Crop-Specific information

CORN  
CORN Tank Mixes

Laddok 5L + Atrazine

Laddok 5L: 1.33-2.33 pints per acre  
 Atrazine- 0.75-1 pound per acre  
 Oil Concentrate: 1 pint per acre

Adding atrazine will provide residual weed control and suppress giant, green and yellow foxtail. Atrazine products compatible with Laddok 5L include AAtrex® 4L and AAtrex® Nine-0 herbicides as well as other similar generic formulations containing atrazine.

Table 5. Tank Mix Rates for Laddok 5L + Atrazine

Laddok 5L	Atrazine <sup>1</sup>
1.33 pints per acre	1 pound per acre
1.67 pints per acre	1 pound per acre
2.33 pints per acre	0.75 pound per acre

<sup>1</sup> See Section VI. General Restrictions and Limitations for maximum amounts of atrazine allowable per season.

**SWEET CORN:**

Consult your local agricultural extension specialist for information on sweet corn varieties that are tolerant to this tank mix.

**Laddok 5L + Banvel®**

Laddok 5L: 1.33-2.33 pints per acre  
 Banvel: up to 16 ounces (0.5 pound a.i.) per acre  
 UAN Solution: 4 pints per acre  
 or AMS: 2.5 pounds per acre

For use on field corn only. This tank mix may be applied for additional or improved control of bindweed (field and hedge), Canada thistle, honeyvine milkweed, common lambsquarters, morningglories, pigweed (redroot and smooth), ragweed (common and giant), waterhemp (common and tall), and wild sunflower.

**Tank Mix Specific Restrictions and Limitations** Do not add other additives to this tank mix. Follow the application procedures on the Banvel herbicide label if applying near sensitive crops. Do not apply this tank mix at more than 40 psi.

**Laddok 5L + Clarity®**

Laddok 5L: 1.33-2.33 pints per acre  
 Clarity- up to 16 ounces (0.5 pound a.i.) per acre  
 UAN Solution: 4 pints per acre  
 or AMS: 2.5 pounds per acre

For use on field corn only. This tank mix may be applied for additional or improved control of bindweed (field and hedge), Canada thistle, honeyvine milkweed, common lambsquarters, morningglories, pigweed (redroot and smooth), ragweed (common and giant), waterhemp (common and tall), and wild sunflower.

**Tank Mix Specific Restrictions and Limitations**

Do not add other additives to this tank mix. Follow the application procedures on the Clarity herbicide label if applying near sensitive crops. Do not apply this tank mix at more than 40 psi.

**Laddok 5L + Poast®**

Laddok 5L: 1.33-2.33 pints per acre  
 Poast 1-1.5 pints per acre  
 Oil concentrate: 1-2 pints per acre  
 UAN Solution: 2-4 pints per acre  
 or AMS: 1-2 pounds per acre

Laddok 5L may be tank mixed with Poast herbicide for postemergence applications in Poast Protected™ field corn and corn grown for Poast Protected seed. This tank mix may be applied postemergence for control of annual and perennial grass weeds in Poast Protected field corn. Refer to the Poast label for complete labeling instructions. Use only Poast Protected field corn hybrids with a Poast Protected (or SR® sethoxydim-resistant field corn) designation on the seed label. Severe crop injury will occur to corn hybrids not designated as Poast Protected field corn.

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Tank Mix Specific Restrictions and Limitations

Do not apply this tank mix to corn hybrids not designated as Poast Protected field corn (or SR<sup>®</sup> sethoxydim-resistant field corn) because severe crop injury will occur.

Do not apply this tank mix within 60 days of harvest of corn grain or fodder. Do not apply this tank mix within 45 days of harvest of corn forage/silage.

Laddok 5L + Poast<sup>®</sup> HC

Laddok 5L: 1.33-2.33 pints per acre  
Poast HC: 7-10.5 fluid ounces per acre  
Oil concentrate: 1-2 pints per acre  
UAN Solution: 2-4 pints per acre  
or AMS: 1-2 pounds per acre

Laddok<sup>®</sup> 5L herbicide may be tank mixed with Poast<sup>®</sup> HC herbicide for postemergence applications in Poast Protected field corn and corn grown for Poast Protected seed. This tank mix may be applied postemergence for control of annual and perennial grass weeds in Poast Protected field corn. Refer to the Poast HC label for complete labeling instructions. Use only Poast Protected field corn hybrids with a Poast Protected (or SR sethoxydim-resistant field corn) designation on the seed label. Severe crop injury will occur to corn hybrids not designated as Poast Protected field corn.

Tank Mix Specific Restrictions and Limitations

Do not apply this tank mix to corn hybrids not designated as Poast Protected field corn (or SR sethoxydim-resistant field corn) because severe crop injury will occur.

Do not apply this tank mix within 60 days of harvest of corn grain or fodder. Do not apply this tank mix within 45 days of harvest of corn forage/silage.

Laddok 5L + Poast Plus<sup>®</sup>

Laddok 5L: 1.33-2.33 pints per acre  
Poast Plus: 1.5-2.25 pints per acre  
Oil concentrate: 1 pint per acre  
UAN Solution: 2-4 pints per acre  
or AMS: 1-2 pounds per acre

Laddok 5L herbicide may be tank mixed with Poast Plus herbicide for postemergence applications in Poast Protected field corn and corn grown for SR seed. This tank mix may be applied postemergence for additional control of annual and perennial grass weeds in Poast Protected field corn. Refer to the Poast Plus supplemental label for complete labeling instructions. Use only Poast Protected field corn hybrids with a Poast Protected (or SR sethoxydim-resistant field corn) designation on the seed label. Severe crop injury will occur to corn hybrids not designated as Poast Protected field corn.

Tank Mix Specific Restrictions and Limitations

Do not apply this tank mix to corn hybrids not designated as Poast Protected field corn (or SR sethoxydim-resistant field corn) because severe crop injury will occur.

Do not apply this tank mix within 60 days of harvest of corn grain or fodder. Do not apply this tank mix within 45 days of harvest of corn forage/silage.

Laddok 5L + Stinger<sup>®</sup>

Laddok 5L: 1.67-2.33 pints per acre  
Stinger: up to 0.33 pint per acre

Apply this tank mix when Canada thistle is at least 4 inches in diameter or height (when the majority of the basal leaves have emerged but before the bud stage).

Do not cultivate before application. Wait 14-20 days after application before cultivating.



**Laddok® 5L + 2,4-D LVE**

Laddok 5L: 1.33-2.33 pints per acre

2,4-D LVE: 4 ounces (4 pounds a.i per gallon formulation) per acre

or

2.7 ounces (6 pounds a.i per gallon formulation) per acre

UAN Solution: 4 pints per acre

or AMS: 2.5 pounds per acre

For use on field and silage corn only. A tank mix of Laddok 5L and 2,4-D LVE (low volatile ester) may be applied for postemergence control of the following troublesome broadleaf weeds: velvetleaf, waterhemp (common and tall), sunflower, and perennial weeds (Canada thistle, swamp smartweed, and field bindweed). The amine formulation of 2,4-D may be substituted for the LVE formulation. Refer to Table I and the 2,4-D LVE label to determine which weeds can be controlled and the best conditions for control.

Crop varieties vary in response to 2,4-D LVE and some can be injured. Apply this tank mix only to varieties known to be tolerant to 2,4-D LVE. Contact your seed supplier for information on 2,4-D LVE susceptibility. Yellowing of the corn may result from this treatment, particularly if cold or adverse growing conditions occur after application. Extended or extreme cold and wet conditions may reduce stands.

**Application Timing**

A tank mix of Laddok 5L + 2,4-D LVE should be applied after corn has fully emerged through the four-leaf stage of corn growth but before the fifth leaf is visible.

**Tank Mix Specific Restrictions and Limitations**

Do not apply on sorghum, popcorn, sweet corn, or corn grown for seed.

Do not add other additives to this tank mix.

Do not apply this tank mix at more than 40 psi.

**Sorghum**

Do not apply to sorghum that is heading out or blooming.

**Sorghum Tank Mixes**

**Laddok 5L + Atrazine**

Laddok 5L: 1.33-2.33 pints per acre

Atrazine: 0.75-1 pound per acre

Oil Concentrate: 1 pint per acre

Adding atrazine will provide residual weed control and suppress giant, green, and yellow foxtail. Atrazine products compatible with Laddok 5L herbicide include AAtrex® 4L and AAtrex® Nine-0 herbicides as well as other similar generic formulations containing atrazine.

Table 6. Tank Mix Rates for Laddok 5L + Atrazine

Laddok 5L	Atrazine <sup>1</sup>
1.33 pints per acre	1 pound per acre
1.67 pints per acre	1 pound per acre
2.33 pints per acre	0.75 pound per acre

<sup>1</sup> See Section VI. General Restrictions and Limitations for maximum amounts of atrazine allowable per season.



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