

655-899

12/29/2011

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

DEC 29 2011

Michael Kellogg
Pyxis Regulatory Consulting, Inc.
4110 136th St. NW
Gig Harbor, WA 98332

Subject: Notification to change the primary brand name and registrant name/reg. number, alter the container disposal language, replace the NPIC number, make minor language revisions, and change the warranty statement
Pretox CFT Legumine Fish Toxicant
EPA Reg. #655-899
Decision #: 459168 and 459169
Submission date: December 13 and December 15, 2011

Dear Mr. Kellogg:

The Agency is in receipt of your Applications for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated December 13 and 15, 2011, for the product Pretox CFT Legumine Fish Toxicant, EPA Reg. #655-899. The Registration Division (RD) has conducted a review of these requests for their applicability under PRN 98-10 and finds that the actions requested fall within the scope of PRN 98-10. The label submitted with the December 15, 2011 application has been stamped "Notification" and will be placed in our records.

If you have any questions, please call me directly at 703-347-0156 or urbanski.jennifer@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Urbanski".

Jennifer Urbanski, Ph.D.
Insecticide Rodenticide Branch
Registration Division (7505P)
Office of Pesticide Programs

Please read instructions on reverse before completing form.

Form Approved, B No. 2070-0060, Approval expires 2-28-95



United States
Environmental Protection Agency
Washington, DC 20460

Registration
 Amendment
 Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number 655-899	2. EPA Product Manager J. Hebert	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Prentiss LLC / CFT Legumine Fish Toxicant	PM# 7	
5. Name and Address of Applicant (Include ZIP Code) Prentiss LLC c/o Pyxis Regulatory Consulting, Inc. 4110 136th St. NW Gig Harbor, WA 98332 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

NOTIFICATION

DEC 29 2011

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Notification of label change per PR Notice 2007-4. In addition, the registrant name and EPA Reg. No. have been updated to reflect the registration transfer from EPA Reg. No. 75338-2 to 655-899 on December 14, 2010. This notification is consistent with the guidance in PR Notice 2007-4 and the requirements of EPA's regulations at 40 CFR 156.10, 156.140, 156.144, 156.146, and 156.156. No other changes have been made to the labeling or the Confidential Statement of Formula for this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if the amended label is not consistent with the requirements of 40 CFR 156.10, 156.140, 156.144, 156.146, and 156.156, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Section - III

1. Material This Product Will Be Packaged In:					2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			<input type="checkbox"/> Metal	<input checked="" type="checkbox"/> Plastic
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	No. per container	<input type="checkbox"/> Glass
						<input type="checkbox"/> Paper
						<input type="checkbox"/> Other (Specify) _____
3. Location of Net Contents Information <input type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) Retail Container 1, 5, 30 gallon		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product		
6. Manner in Which Label is Affixed to Product <input checked="" type="checkbox"/> Lithograph Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____		

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Michael Kellogg	Title Agent	Telephone No. (Include Area Code) (253) 853-7369
<p align="center">Certification</p> <p>I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.</p>		6. Date Application Received (Stamped)
2. Signature 	3. Title Agent	
4. Typed Name Michael Kellogg	5. Date 12/13/11	



United States
Environmental Protection Agency
 Washington, DC 20460

Registration
 Amendment
 Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number 655-899	2. EPA Product Manager J. Hebert	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Prentiss LLC / CFT Legumine Fish Toxicant	PM# 7	
5. Name and Address of Applicant (Include ZIP Code) Prentiss LLC c/o Pyxis Regulatory Consulting, Inc. 4110 136th St. NW Gig Harbor, WA 98332 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____	NOTIFICATION DEC 29 2011
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.	
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.	

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Notification of a change in primary brand name and other minor label revisions as permitted by PRN 98-10. The new primary brand name is "Prentox CFT Legumine Fish Toxicant". This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Metal	<input checked="" type="checkbox"/> Plastic
				<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	Other (Specify) _____	
		If "Yes" Package wgt	No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) Retail Container 1, 5, 30 gallon		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input checked="" type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			<input type="checkbox"/> Other _____		

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Michael Kellogg	Title Agent	Telephone No. (Include Area Code) (253) 853-7369
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title Agent	
4. Typed Name Michael Kellogg	5. Date 12/15/11	

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PYXIS REGULATORY CONSULTING, INC.

4110 136th St. NW
Gig Harbor, WA 98332

Phone: 253-853-7369
Fax: 253-853-5516
www.PyxisRC.com

December 15, 2011

COURIER DELIVERY

John Hebert (PM 7)
Document Processing Desk (NOTIF)
Office of Pesticide Programs (7504P)
U.S. Environmental Protection Agency
Room S-4900, One Potomac Yard
2777 S. Crystal Drive
Arlington, VA 22202

RE: Prentiss LLC – CFT Legumine Fish Toxicant (EPA Reg. No. 655-899)
Notification of a Change in Primary Brand Name and other Minor Label Revisions permitted by
PRN 98-10

Dear Mr. Hebert,

On behalf of Prentiss LLC, please find the enclosed notification of a change in primary brand name and other minor label revisions for CFT Legumine Fish Toxicant. The new primary brand name is "Prentox CFT Legumine Fish Toxicant".

Other changes to the labeling include:

- 1) Removed the NPIC telephone number (1-800-858-7378) since Prentiss subscribes to both Chemtrec and Prosar. Chemtrec and Prosar numbers have been added to the label to replace the NPIC telephone number.
- 2) Replaced the product name in body of label with "this product"
- 3) Revised the warranty language

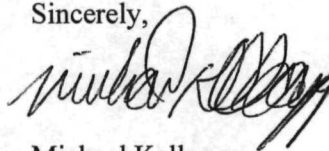
Please note: A notification to update the container disposal language and registrant name and EPA Reg. No. to reflect the registration transfer from EPA Reg. No. 75338-2 to 655-899 was submitted to the Agency with notification dated December 13, 2011.

In support of this notification application, we submit the following documents:

- 1. Application for Pesticide Registration (EPA Form 8570-1)
- 2. One (1) copy of the Prentox CFT Legumine Fish Toxicant label with changes tracked
- 3. One (1) copy of the Prentox CFT Legumine Fish Toxicant label with changes incorporated
- 4. Certification with Respect to Label Integrity
- 5. One (1) copy of the Prentox CFT Legumine Fish Toxicant on CD
- 6. Letter of Authorization

Please feel free to contact me by phone (253) 853-7369 or by email at Mike@PyxisRC.com if you have any questions or need any additional information.

Sincerely,



Michael Kellogg

Enclosures

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RESTRICTED USE PESTICIDE

Due to aquatic toxicity

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.

**Prentox CFT Legumine™
Fish Toxicant**

For Control of Fish in Lakes, Ponds, Reservoirs, and Streams

ACTIVE INGREDIENTS:

Rotenone	5.0%	w/w
Other Associated Resins	5.0%	

OTHER INGREDIENTS¹	90.0%
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¹ Contains Petroleum Distillates	Total	100.0%
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CFT Legumine is a trademark of Prentiss LLC

**KEEP OUT OF REACH OF CHILDREN
WARNING**

NOTIFICATION

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FIRST AID

Have product container or label with you when obtaining treatment advice.

If swallowed	<ul style="list-style-type: none"> • Call a physician, Poison Control Center, or the National Pesticide Information Center at 1-800-858-7378 immediately for treatment advice. <u>Immediately call a poison control center or doctor.</u> • Do not give any liquid to the person. • Do not anything to an unconscious person • Do not induce vomiting unless told to do so by the poison control center or doctor.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a physician, Poison Control Center, or the National Pesticide Information Center at 1-800-858-7378 immediately for treatment advice. <u>poison control center or doctor for treatment advice.</u>
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a physician, Poison Control Center, or the National Pesticide Information Center at 1-800-858-7378 immediately. <u>poison control center or doctor for further treatment advice.</u>
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 physician, Poison Control Center, or the National Pesticide Information Center at 1-800-858-7378 immediately. <u>poison control center or doctor for treatment advice.</u>

Note to Physician: Contains Petroleum Distillates. Vomiting may cause aspiration pneumonia. For information on this pesticide product (including health concerns, medical emergencies, or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-866-257-4118 for emergency medical treatment information.

EPA Reg. No. 655-899

EPA Est. No. 655-GA-1

For Chemical Spill, Leak, Fire, or Exposure, Call: CHEMTREC 1-800-424-9300

For Medical Emergencies Only, Call: 866-257-4118

Manufactured for Prentiss LLC, 501 Cascade Pointe Lane, Suite 103, Cary, NC 27513



**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
WARNING**

May be fatal if inhaled or swallowed. Causes moderate eye irritation. Harmful if absorbed through skin. Do not breathe spray mist. Do not get in eyes, on skin, or on clothing. Wear goggles or safety glasses.

When handling undiluted product, wear either a respirator with an organic-vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix 14G), or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R, P, or HE prefilter.

Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Remove contaminated clothing and wash before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

ENVIRONMENTAL HAZARDS

This pesticide is extremely toxic to fish. Fish kills are expected at recommended rates. Consult your State Fish and Game Agency before applying this product to public waters to determine if a permit is needed for such an application. Do not contaminate untreated water when disposing of equipment washwaters.

CHEMICAL AND PHYSICAL HAZARDS

FLAMMABLE: KEEP AWAY FROM HEAT AND OPEN FLAME. FLASH POINT MINIMUM 45°F (7°C).

For information on this pesticide product (including health concerns, medical emergencies, or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378.

STORAGE AND DISPOSAL

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

STORAGE: Store only in original containers, in a dry place inaccessible to children and pets. This product will not solidify nor show any separation at temperatures down to 40°F and is stable for a minimum of one year when stored in sealed drums at 70°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 by use 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: Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying.

[For Containers 5 gallons or less]: Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, offer for recycling if available 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.

[For Containers larger than 5 gallons]: Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one

complete revolution for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then, offer for recycling if available 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.

DIRECTIONS FOR USE

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

CFT Legumine This product is registered for use by or under permit from, and after consultation with State and Federal Fish and Wildlife Agencies.

GENERAL INFORMATION

This product is a specially formulated product containing rotenone to be used in fisheries management for the eradication of fish from lakes, ponds, reservoirs and streams.

Since such factors as pH, temperature, depth and turbidity will change effectiveness, use this product only at locations, rates, and times authorized and approved by appropriate State and Federal Fish and Wildlife Agencies. Rates must be within the range specified on the label.

Properly dispose of unused product. Do not use dead fish for food or feed.

Do not use water treated with rotenone to irrigate crops or release within 1/2 mile upstream of a potable water or irrigation water intake in a standing body of water such as a lake, pond or reservoir.

Re-entry Statement: Do not allow swimming in rotenone-treated water until the application has been completed and all pesticide has been thoroughly mixed into the water according to labeling instructions.

FOR USE IN PONDS, LAKES, AND RESERVOIRS

The actual application rates and concentrations of rotenone needed to control fish will vary widely, depending on the type of use (e.g., selective treatment, normal pond use, etc.) and the factors listed above. The table below is a general guide for the proper rates and concentrations.

This product disperses readily in water both laterally and vertically, and will penetrate below the thermocline in thermally stratified bodies of water.

Computation of Acre-Feet: An acre-foot is a unit of volume of a body of water having the area of one acre and the depth of one foot. To determine acre-feet in a given body of water, make a series of transects across the body of water taking depths with a measured pole or weighted line. Add the soundings and divide by the number made to determine the average depth. Multiply this average depth by the total surface area in order to determine the acre-feet to be treated. If number of surface acres is unknown, contact your local Soil Conservation Service, which can determine this from aerial photographs.

Amount of CFT Legumine this product Needed for Specific Uses: To determine the approximate number of gallons needed, find your "Type of Use" in the first column of the table below and then divide the corresponding numbers in the fourth column, "Number of Acre-Feet Covered by One Gallon" into the number of acre-feet in your body of water.

Type of Use	Parts per Million		Number of Acre-Feet Covered by One Gallon
	Prentox CFT Legumine	Active Rotenone	
Selective Treatment	0.10 to 0.13	0.005 to 0.007	30 to 24
Normal Pond Use	0.5 to 1.0	0.025 to 0.050	6.0 to 3.0
Remove Bullheads or	1.0 to 2.0	0.050 to 0.100	3.0 to 1.5

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Carp			
Remove Bullheads or Carp in Rich Organic Ponds	2.0 to 4.0	0.100	1.5 to 0.75
Preimpoundment Treatment Above Dam	3.0 to 5.0	0.150 to 0.250	1.0 to 0.60

*Adapted from Kinney, Edward. 1965. Rotenone in Fish Pond Management. USDI Washington, DC Leaflet FL-576

Pre-Mixing and Method of Application: Pre-mix with water at a rate of one gallon of CFT Leguminethis product to 10 gallons of water. Uniformly apply over water surface or bubble through underwater lines.

Detoxification: Water treated with this product will detoxify under natural conditions within one week to one month depending upon temperatures, alkalinity, etc. Rapid detoxification can be accomplished by adding chlorine or potassium permanganate to the water at the same rate as CFT Leguminethis product in parts per million, plus enough additional to meet the chlorine demand of the untreated water.

Removal of Taste and Odor: Waters treated with this product do not retain a detectable taste or odor for more than a few days to a maximum of one month. Taste and odor can be removed immediately by treatment with activated charcoal at a rate of 30 ppm for each 1 ppm of CFT Leguminethis product remaining. (Note: As this product detoxifies, less charcoal is required.)

Restocking After Treatment: Wait 2 to 4 weeks after treatment. Place a sample of fish to be stocked in wire cages in the coolest part of the treated waters. If the fish are not killed within 24 hours, the water may be restocked.

USE IN STREAMS IMMEDIATELY ABOVE LAKES, PONDS, AND RESERVOIRS

The purpose of treating streams immediately above lakes, ponds and reservoirs is to improve the effectiveness of lake, pond and reservoir treatments by preventing target fish from moving into the stream corridors, and not to control fish in streams per se. The term "immediately" means the first available site above the lake, pond or reservoir where treatment is practical, while still creating a sufficient barrier to prevent migration of target fish into the stream corridor.

In order to completely clear a fresh water aquatic habitat of target fish, the entire system above or between fish barriers must be treated. See the use directions for streams and rivers on this label for proper application instructions.

In order to treat a stream immediately above a lake, pond or reservoir you must: (a) Select the concentration of active rotenone, (b) Compute the flow rate of the stream, (c) Calculate the application rate, (d) Select an exposure time, (e) Estimate the amount of product needed, (f) Follow the method of application.

To prevent movement of fish from the pond, lake, or reservoir, the stream treatment should begin before and continue throughout treatment of the pond, lake or reservoir until mixing has occurred.

1. Concentration of Active Rotenone

Select the concentration of active rotenone based on the type of use from those listed on the table. Example: If you select "normal pond use" you could select a concentration of 0.025 parts per million.

2. Computation of Flow Rate for Stream

Select a cross section of the stream where the banks and bottom are relatively smooth and free of obstacles. Divide the surface width into 3 equal sections and determine the water depth and surface velocity at the center of each section. In slowly moving streams, determine the velocity by dropping a float attached to 5 feet of loose monofilament fishing line. Measure the time required for the float to move 5 feet. For fast-moving streams, use a longer distance. Take at least three readings at each point. To calculate the flow rate from the information obtained above, use the following formula:

$$F = \frac{W_s \times D \times L \times C}{T}$$

Where F = flow rate (cubic feet/second), W_s = surface width (feet), D = mean depth (feet), L = mean distance traveled by float (feet), C = constant (0.8 for rough bottoms and 0.9 for smooth bottoms), T = mean time for float (sec.).

3. Calculation of Application Rate

In order to calculate the application rate (expressed as gallons/second), convert the rate in the table (expressed as gallons/acre-foot) to gallons per cubic feet and multiply by the flow rate (expressed as cubic feet/second). Depending on the size of the stream and the type of equipment, the rate could be expressed in other units, such as ounces/hour, or cc/minute.

The application rate for the stream is calculated as follows:

$$R_s = R_p \times C \times F$$

Where R_s = application rate for stream (gallons/second), R_p = application rate for pond (gallons/acre-foot), C = 1 acre-foot/43560 cubic feet and F = flow rate of the stream (cubic feet/second).

4. Exposure Time

The exposure time would be the period of time (expressed in hours or minutes) during which ~~CFT Legumine~~ this product is applied to the stream in order to prevent target fish from escaping from the pond into the stream corridor.

5. Amount of Product

Calculate the amount of product for a stream by multiplying the application rate for streams by the exposure time.

$$A = R_s \times H$$

Where A = the amount of product for the stream application, R_s = application rate for stream (gallons/second) and H = the exposure time expressed in seconds.

FOR USE IN STREAMS AND RIVERS

Only state or Federal Fish and Wildlife personnel or professional fisheries biologists under the authorization of state or Federal Fish and Wildlife agencies are permitted to make applications of ~~CFT Legumine~~ this product for control of fish in streams and rivers. Informal consultation with Fish and Wildlife personnel regarding the potential occurrence of endangered species in areas to be treated should take place. Applicators must reference the Stream and River use Monograph before making any application to streams or rivers.

PRENTOX CFT LEGUMINE STREAM AND RIVER USE MONOGRAPH

USE IN STREAMS AND RIVERS

The following use directions are to provide guidance on how to make applications of ~~CFT Legumine~~ this product to streams and rivers. The unique nature of every application site could require minor adjustments to the method and rate of application. Should these unique conditions require major deviation from the use directions, a Special Local Need 24(c) registration should be obtained from the state.

Before applications of ~~CFT Leguminethis~~ product can be made to streams and rivers, authorization must be obtained from state or federal Fish and Wildlife agencies. Since local environmental conditions will vary, consult with the state Fish and Wildlife agency to ensure the method and rate of application are appropriate for that site.

Contact the local water department to determine if any water intakes are within one mile downstream of the section of stream, river, or canal to be treated. If so, coordinate the application with the water department to make sure the intakes are closed during treatment and detoxification.

Application Rates and Concentration of Rotenone

Slow Moving Rivers: In slow moving rivers and streams with little or no water exchange, use instructions for ponds, lakes and reservoirs.

Flowing Streams and Rivers: Apply rotenone as a drip for 4 to 8 hours to the flowing portion of the stream. Multiple application sites are used along the length of the treated stream, spaced approximately 1/2 to 2 miles apart depending on the water flow travel time between sites. Multiple sites are used because rotenone is diluted and detoxified with distance. Application sites are spaced at no more than 2 hours or at no less than 1-hour travel time intervals. This assures that the treated stream remains lethal to fish for a minimum of 2 hours. A non-toxic dye such as Rhodamine-WTR or fluorescein can be used to determine travel times. Cages containing live fish placed immediately upstream of the downstream application sites can be used as sentinels to assure that lethal conditions exist between sites.

Apply rotenone at each application site at a concentration of 0.25 to 1.0 part per million of ~~CFT Leguminethis~~ product. The amount of ~~CFT Leguminethis~~ product needed at each site is dependent on stream flow (see Computation of Flow Rate for Stream).

Application of Undiluted Material

~~CFT Leguminethis~~ This product can drain directly into the center of the stream at a rate 0.85 to 3.4 cc per minute for each cubic foot per second of stream flow. Flow of undiluted ~~CFT Leguminethis~~ product into the stream should be checked at least hourly. This is equivalent to from 0.5 to 2.0 ppm of this product, or from 0.025 to 0.100 ppm rotenone. Backwater, stagnant, and spring areas of streams should be sprayed by hand with a 10% v/v solution of ~~CFT Leguminethis~~ product in water to assure a complete coverage.

Calculation of Application Rate:

$$X = F (1.699 B)$$

X = cc per minute of ~~CFT Leguminethis~~ product applied to the stream, F = the flow rate (cu.ft/sec.) see Computation of Flow Rate for Stream section of the label, B = parts per million desired concentration of ~~CFT Leguminethis~~ product.

Total Amount of Product Needed for Treatment: Streams should be treated for 4 to 8 hours in order to clear the treated section of stream of fish. To determine the total amount of ~~CFT Leguminethis~~ product required, use the following equation:

$$Y = X (0.0158 C)$$

Y = gallons of ~~CFT Leguminethis~~ product required for the stream treatment, X = cc per minute of ~~CFT Leguminethis~~ product applied to the stream, C = time in hours of the stream treatment.

Application of Diluted Material

Alternatively, for stream flows up to 25 cubic feet per second, continuous drip of diluted ~~CFT Leguminethis~~ product at 80 cc per minute can be used. Flow of diluted ~~CFT Leguminethis~~ product into the stream should be checked at least hourly. Use a 5 gallon reservoir over a 4 hour period, a 7.5 gallon reservoir over a 6 hour period, or a 10 gallon reservoir over an 8 hour period. The volume of the reservoir can be determined from the equation:

$$R = H \times 1.25$$

Where R = the volume of the reservoir in gallons, H = the duration of the application in hours.
The volume of ~~CFT Legumine~~this product diluted with water in the reservoir is determined from the equation:

$$X = Y(102 F)H$$

Where X = the cc of ~~CFT Legumine~~this product diluted in the reservoir, Y = parts per million desired concentration of ~~CFT Legumine~~this product, F = the flow rate (cubic feet/second), H = the duration of the application (hours).

For flows over 25 cubic feet per second, additional reservoirs can be used concurrently. Back-water, stagnant and spring areas of streams should be sprayed by hand with a 10% v/v solution of ~~CFT Legumine~~this product in water to assure a complete coverage.

Detoxification

To limit effects downstream, detoxification with potassium permanganate can be used at the downstream limit of the treated area. Within 1/2 to 2 miles of the furthest downstream ~~CFT Legumine~~ application site, the rotenone can be detoxified with a potassium permanganate solution at a resultant stream concentration of 2 to 4 parts per million, depending on rotenone concentration and permanganate demand of the water. A 2.5% (10 pounds potassium permanganate to 50 gallons of water) permanganate solution is dripped in at a continuous rate using the equation:

$$X = Y(70 F)$$

Where X = cc of 2.5% permanganate solution per minute, Y = ppm of desired permanganate concentration, F = cubic feet per second of stream flow.

Flow of permanganate should be checked at least hourly. Live fish in cages placed immediately above the permanganate application site will show signs of stress signaling the need for beginning detoxification. Detoxification can be terminated when replenished fish survive and show no signs of stress for at least four hours.

Detoxification of rotenone by permanganate requires between 15 to 30 minutes contact time (travel time). Cages containing live fish can be placed at these downstream intervals to judge the effectiveness of detoxification. At water temperatures less than 50°F detoxification may be retarded, requiring a longer contact time.

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