

Reg # 67016-1

PM - 22

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

MAY 17 1991

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Egar R. Butts
ACADIAN SEAPLANTS LTD.
C/O E.R. BUTTS INTERNATIONAL INC.
P.O. BOX 764
FAIRFIELD, CT 06430

Subject: Label Amendment Submission of 04/05/94 in Response to PR Notice 93-7
EPA Reg. No. 67016-1
STIMPLEX CROP BIOSIMULANT FOR MAXIMIZING CROP YIELD
AND QUALITY

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is accepted subject to the comments reflected on the enclosed sheet. A copy of your proposed labeling stamped "ACCEPTED WITH COMMENTS" is enclosed.

WHAT THIS ACCEPTANCE MEANS:

Based on your certification, the Agency has accepted the labeling changes that are necessary to comply with the Worker Protection Standard (WPS) labeling requirements of 40 CFR part 156, subpart K, described in PR Notices 93-7 and 93-11. Any other labeling changes submitted in connection with this amendment application but not directly related to compliance with the WPS have not been reviewed or accepted by the Agency. If you wish to make such changes, you must submit a separate amendment application proposing them. If your product is currently suspended, the acceptance of this labeling amendment does not affect the suspension in any way.

WHAT YOU NEED TO DO NEXT:

By the next label printing make all the specified changes to your labeling. Send to EPA one (1) copy of the final printed labeling:

- BEFORE selling or distributing any product bearing the final printed labeling
- AND
- WITHIN one year from date of this acceptance.



Recycled/Recyclable
Printed with Soy/Canola Ink on paper that
contains at least 50% recycled fiber

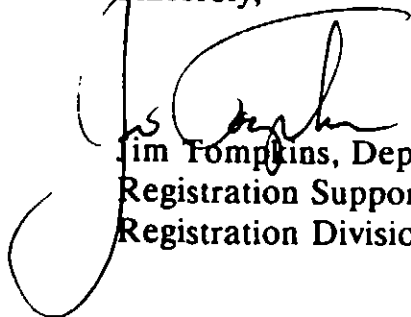
Submit the final printed labeling via the U.S. Postal Service to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs (7505C)
U.S. Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460-0001

Hand or courier deliveries of final printed labeling may be made to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

Sincerely,



Jim Tompkins, Deputy Chief
Registration Support Branch
Registration Division (7505W)

Attachment

ACCEPTED
with COMMENTS
in EPA Letter Dated

3913

MAY 17 1994

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

67016-1

STIMPLEX™

CROP BIOSTIMULANT

For Maximizing Crop Yield and Quality

Active Ingredients:

Cytokinin (as kinetin)*.....	0.01%
Inert ingredients.....	99.99%
TOTAL.....	<u>100.00%</u>

* Based on biological activity

KEEP OUT OF REACH OF CHILDREN

CAUTION

READ ALL DIRECTIONS BEFORE USING

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION: Harmful if swallowed or absorbed through the skin. Causes skin irritation. Do not breathe vapor or spray mist. Do not get in eyes, or skin or on clothing. Wash thoroughly with soap and water after handling.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear: Long-sleeved shirt and long pants; Waterproof gloves; Shoes plus socks.

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Statement of Practical Treatment

IN CASE OF CONTACT, Wash skin with soap and water. FOR EYES, flush with plenty of water. Get medical attention if irritation persists.

Environmental Hazards

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 contaminate water by disposal of equipment washwaters.

Emergency Information

For spill, leak, fire, exposure or accident call Acadian Seaplants Limited 1-902-468-2840.

NET CONTENTS: _____

Manufactured by:
ACADIAN SEAPLANTS LIMITED
30 Brown Avenue
Dartmouth, Nova Scotia
Canada B3B 1X8

PRODUCT OF CANADA
EPA REG. NO: 67016-1
EPA EST. NO: 67016-CN-001
Lot. Number: _____
REV: WPS940405

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DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read, understand and follow the precautions and directions on the labeling before using.

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.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of 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). The requirements in this box only apply to uses of this product 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:

- Coveralls
- Waterproof gloves
- Shoes plus socks

GENERAL INFORMATION

STIMPLEX is a plant growth regulator extracted from specially selected marine plants which simulates plant growth and development, promoting:

- Increased yields
- Increased fruit set
- Improved resistance to environmental stress
- Earlier maturity
- Improved crop quality

RECOMMENDED CROPS

STIMPLEX is recommended for use on:

FIELD CROPS:

ALFALFA (includes alfalfa, lucerne, sainfoin, holy clover, esparcet, birdsfoot, trefoil and varieties and/or hybrids of these)

CORN (includes Field Corn and Popcorn)

COTTON

LUPINE

PEANUTS

RICE

SORGHUM (Milo)

FIELD CROPS (con't):

SOYBEANS
SUGAR BEETS
TRITICALE
WHEAT

FRUITS:

APPLES
BANANAS
GRAPES
ORANGES
PEACHES
PLANTAINS
STRAWBERRIES

VEGETABLES:

ASPARAGUS
BEANS (also includes Black-eyed Peas, Catjang, Chick Peas, Cowpeas, Crowder Peas, Garbanzo Beans, Southern Peas, Kidney Beans, Lima Beans, Mung Beans, Navy Beans, Pinto Beans, Snap Beans, Wax Beans, Broad Beans, Fava Beans and Asparagus Beans)
BROCCOLI (includes Chinese Broccoli)
BRUSSELS SPROUTS
CABBAGE
CARROTS
CAULIFLOWER
CELERY
CORN (Sweet)
CUCUMBER
EGGPLANT
GARLIC
LETTUCE
MELONS
OKRA
ONIONS
PARSLEY
PEAS (includes Lentils)
PEPPERS
POTATOES
PUMPKINS
RADISHES
SHALLOTS
SPINACH
SQUASH
SWEET POTATOES
TOMATOES (includes Tomatillos)

NON FOOD CROPS:

JOJOBA
ORNAMENTALS
TREES
TURF

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MIXING INSTRUCTIONS:

STIMPLEX is water soluble and suitable for use in conventional liquid application systems. **Acidic dilution water (pH less than 5) should be adjusted to neutral pH (6.5-8.0) prior to the addition of STIMPLEX.** Agitate the tank mixture during application and use within 24 hours after dilution.

COMPATIBILITY:

STIMPLEX can be tank mixed (unless prohibited) with foliar fertilizers. Test the compatibility of the intended tank mixture before use. Add the proportionate amounts of each diluted ingredient to a jar. Cover, shake and let stand 15 minutes. Formation of precipitates that do not readily redisperse indicates an incompatible mixture.

APPLICATION RATES AND TIMING

Seed Treatment: To coat seeds prior to planting, apply STIMPLEX at the rate of 4 oz/5 Gallons water and coat seeds briefly before planting; or, apply 2 oz/5 Gallons water directly on peat pots, planting mixture or seed bed immediately before planting.

Nursery/Container Use: Apply STIMPLEX as a fine mist spray to container grown plants at the rate of 2 oz/5 Gallons of water, every 2-4 weeks. Mist leaves thoroughly but not to the point of excessive run off.

Rooting and Transplant Solution: Dip cuttings in a STIMPLEX solution of 8 oz/5 Gallons water before rooting. For use as a rooting medium, setting cuttings in a solution of 2 oz/5 Gallons water. Immediately before transplanting, dip roots in a 4 oz/ 5 Gallons water solution.

Chemigation: Refer to supplemental labeling entitled "Supplemental Chemigation Labeling for STIMPLEX" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

Foliar Spray: STIMPLEX is most effective when used as part of a regular foliar nutritional spray program, and can be applied with any standard fertilizer or crop protection spray system. The foliar spray mixture should be applied as a fine mist, with low fluid velocity until the foliage is wet. Where common, a biodegradable surfactant can be used.

Do not spray just prior to and after rainfall. Apply in calm weather conditions, preferably in early morning or in the evening. A foliar spray mixture of 25-100 gallons of water per acre is generally sufficient. The volume of water may vary depending on equipment used, area to be covered, and size of plants.

For large areas where aircraft or power driven sprayers are used to apply the spray, follow the specific crop use rates below. Apply with sufficient water to get thorough foliage coverage, 3 to 10 gallons water per acre for aircraft sprayers and 10 to 50 gallons water per acre for ground driven spray equipment.

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Crop Foliar Applications: The suggested rates and dosages for foliar applications of STIMPLEX may be adjusted depending on the climatic region, soil type and fertility. For best results increase the frequency of applications rather than the concentration of the spraying solution. Additional applications can be made as required, and/or immediately prior or following stress periods such as frost or drought.

CROP	APPLICATION STAGES	DOSAGE/ APPLICATION
<u>VEGETABLES:</u>		
ASPARAGUS	1. For newly established plants, make 1 application to new flush or fern growth in spring	1.5 - 2 pints/A
	2. For mature crops, make 1 application to new fern growth after cuttings have stopped.	
BEANS PEAS	1. At 2-3 trifoliate leaf stage	1.5 - 2.5 pints/A
	2. At first bloom	
	3. At pod initiation	
CARROTS ONIONS	1. 2-3 weeks after emergence	2 - 2.5 pints/A
	2. At root enlargement	
BROCCOLI CAULIFLOWER CABBAGE BRUSSELS SPROUTS	1. At 4-6 true leaf stage	2 - 2.5 pints/A
	2. 10-14 days later	
	3. At head initiation	
SWEET CORN & POPCORN	1. At 2-6 leaf stage	2 - 2.5 pints/A
	2. At 20-30 in. growth stage	
	3. Just prior to teazing	
CELERY	1. Within 7 days of transplanting or 2-3 weeks after emergence	2 - 2.5 pints/A
	2. 10-14 days later	
	3. 10-14 days later	
CUCUMBERS	1. At first 4 true leaves from seed	2 - 3 pints/A
	2. At first pre-bloom	
	3. 7-14 days later	
	4. Every 7-14 days until harvest	
	5. Within 48 hours of each picking	
EGGPLANTS PEPPERS MELONS SQUASH	1. At 6-8 inch growth stage	2.5 - 3 pints/A
	2. At pre-bloom stage	
	3. At fruit set	
	4. Within 48 hours of each picking	

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CROP	APPLICATION STAGES	DOSAGE/ APPLICATION
<u>VEGETABLES (con't):</u>		
LETTUCE PARSLEY SPINACH	1. At 4 leaf stage 2. Followed by regular applications at 14 day intervals	1.5 - 2 pints/A
OKRA	1. 2 weeks after emergence 2. Regular applications at 1 week intervals until the end of blooming	2 - 2.5 pints/A
POTATOES	1. At tuber initiation (tuber set) or 3-5 weeks after emergence 2. 10-14 days later 3. At the start of blooming	2 - 2.5 pints/A
TOMATOES	1. At 6-8 inch growth stage 2. At pre-bloom stage 3. At fruit set 4. Approximately 14 days later 5. For fresh market varieties make extra applications within 48 hours of each picking	2.5 - 3 pints/A
<u>FRUIT:</u>		
APPLES	1. At green growth (tight cluster) 2. Pre-bloom/pink buds 3. Half-bloom 4. 3/4 petal fall 5. Young fruit 6. Every 14 days until harvest	2.5 - 3 pints/A
BANANAS PLANTAINS	1. Just prior to flower bud formation Or 1. At start of new sucker growth 2. Every 4-8 weeks until harvest	2 - 3 pints/A
GRAPES	1. At start of spring growth 2. 18-24" growth 3. 50% bloom 4. Berry set/early shattering 5. 2-3 weeks later	2 - 2.5 pints/A
ORANGES	1. Pre-bloom/early bloom 2. Full bloom-2/3 petal fall 3. With summer spray 4. With fall spray 5. 6-8 weeks prior to harvest for fresh market varieties	3 - 3.5 pints/A

CROP	APPLICATION STAGES	DOSAGE/ APPLICATION
<u>FRUIT (con't):</u>		
PEACHES	1. Early bloom 2. Petal fall 3. Young fruit	2.5 - 3 pints/A
STRAWBERRIES	1. 10-14 days after emergence 2. At first bloom 3. Every 2-3 weeks through to picking	1.5 - 2 pints/A
<u>FIELD CROPS:</u>		
ALFALFA	1. Start in early spring, repeating 8-10 days after each cutting or heavy pasturing	2 - 2.5 pints/A
COTTON	1. At flower bud initiation 2. 7-10 days later Or	2 - 2.5 pints/A
	1. At pinhead square 2. 3 applications at 7-10 day intervals	1.5 - 2.5 pints/A
CORN (FIELD)	1. At 4-6 inch growth	2 - 2.5 pints/A
	2. At 10-14 inch growth	
	3. Just prior to teaseling	
LUPINE	1. 3-7 trifoliolate leaf stage	2 - 2.5 pints/A
	2. 2-3 weeks later	
PEANUTS	1. 3 weeks after emergence and three other applications every 1-2 weeks	2 - 3 pints/A
RICE	1. 3-5 leaf stage	2 - 2.5 pints/A
	2. At panicle initiation	1 - 1.5 pints/A
SOYBEANS	1. When buds appear	2 - 2.5 pints/A
	2. During full bloom	
	3. 1 or 2 other applications at 2-3 week intervals during the growing season	
SUGAR BEETS	1. Between 2-6 leaf stage	2 - 2.5 pints/A
	2. 7-10 days later (6-10 leaf stage)	
	3. 7-10 days later (10-14 leaf stage)	
SORGHUM	1. At 2-6 leaf stage	2 - 2.5 pints/A

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CROP	APPLICATION STAGES	DOSAGE/ APPLICATION
<u>FIELD CROPS (con't)</u>		
WHEAT Summer Crop	1. At 4-8 inch stage	2 - 2.5 pints/A
	2. At flowering or seedhead development	
Winter Crop	1. In fall, at 3-6 inch stage, provided plant growth has not entered dormancy period	2 - 2.5 pints/A
	2. As early as possible in the spring at beginning of new growth	
	3. Just prior to appearance of seed head	

NON-FOOD CROPS:

TURF: STIMPLEX can be used in sod production, parks, golf courses, athletic fields, and home lawns. A total of 6 - 7.5 pints/A should be applied over the growing season, at the rate of 1.5 - 2 pints/A (1.5 oz. per 2,200 sq. ft.) per application. STIMPLEX Applications should begin at the initial growth stage and continue throughout the season at 2-4 week intervals. For seed production apply 1.5 pints/A just prior to spear formation. Additional applications can be made after periods of heavy use or high stress. Spray newly applied sod to help new root growth and root penetration of soil. A late season spray will help improve resistance to winter kill and frost damage.

DECIDUOUS, CONIFEROUS TREES AND SHRUBS: Make the first STIMPLEX application early in the season at the initiation of new growth, applying 3 - 5 pints/A (4.5 oz./2,200 sq. ft.). Follow with two sprays of 2.5 pints/A (2 oz./2,200 sq. ft.) at 14-21 day intervals during the growing season. A late season spray will help improve resistance to winter kill and frost damage, although it should not be substituted for standard winter protection. A late season application will help Christmas trees retain their dark green color after cutting.

FIELD ORNAMENTALS: Start the season by applying 2 pints/A (5 oz./2,200 sq. ft.) at the early leaf stage. Continue with applications of 2 - 2.5 pints/A (2 oz./2,200 sq. ft.) in the regular spraying program. An additional application prior to lifting will help retain moisture and resist wilting.

GREENHOUSE ORNAMENTALS: Start by spraying the foliage to runoff point within 10 days of transplant or emergence at the rate of 1.5 - 2.5 pints/100 gal. water. Continue with regular applications every 2 weeks.

JOJOBA: Apply STIMPLEX after the initiation of new growth in Spring or Autumn, at the rate of 1.5 - 2.5 pints/A.

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STORAGE AND DISPOSAL

GENERAL:

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

STORAGE:

Store in a cool place and out of direct sunlight. Keep from freezing. Do not contaminate water, food or fed by storage or disposal.

PESTICIDE DISPOSAL:

Improper disposal of unused pesticide, spray mixture or rinsate is a violation of Federal law. Pesticide, spray mixture, or rinsate that cannot be used according to label directions must be disposed of according to Federal, state or local procedures. For guidance in proper disposal methods, contact your State Pesticide, Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office.

CONTAINER DISPOSAL:

Do not reuse empty container. Triple rinse (or equivalent), then offer for recycling, reconditioning or puncture and dispose of in a sanitary landfill, by incineration or by burning, if allowed by state and local authorities. If burned, stay out of the smoke.

WARRANTY STATEMENT

Acadian Seaplants warrants that this product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with the directions under normal conditions of use. Crop injury, ineffectiveness or other unintended consequences may result because of such factors such as weather conditions, presence of other materials or the manner of use or application, all of which are beyond the control of Acadian Seaplants. In no case shall Acadian Seaplants be liable for consequential, special or indirect damages resulting from the use or handling of this product. Acadian Seaplants makes no warranties of merchantability or fitness for a particular purpose nor any other express or implied warranty except as stated above.

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SUPPLEMENTAL LABELING FOR STIMPLEX CHEMIGATION

GENERAL

- 1) Apply STIMPLEX only through drip (trickle), sprinkler (including center pivot, lateral move, end tow, side [wheel] roll, traveler, big gun, solid set or hand move), flood (basin), furrow or border irrigation system(s). Do not apply STIMPLEX through any other type of irrigation system.
- 2) A pesticide supply tank is recommended. Dilute 1 part STIMPLEX with at least 5 parts water before adding to the supply tank. Continuous agitation of supply tank is recommended during application or injection into the chemigation system. For mixing instructions and compatibility information, see general use on container label.
- 3) Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.
- 4) If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 5) A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of a responsible person, shall shut the system down and make necessary adjustments should the need arise.

SPECIAL INSTRUCTIONS FOR USE OF PUBLIC WATER SOURCES

- 1) Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices from public water systems are in place.
- 2) Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- 3) Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 4) The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 5) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

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SPECIAL INSTRUCTIONS FOR DRIP IRRIGATION (CHEMIGATION) SYSTEMS

- 1) The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking control to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

SPECIAL INSTRUCTIONS FOR FLOOD, FURROW AND BORDER IRRIGATION (CHEMIGATION) SYSTEMS

- 1) Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.
- 2) Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:
 - a. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
 - b. The pesticide injection pipeline must contain a functional, automatic, quick closing check valve to prevent the flow of fluid back toward the injection pump.
 - c. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
 - d. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
 - e. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
 - f. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.