

82606-1

05/07/2007

1/21

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



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

EPA Reg. Number:
82606-1

Date of Issuance:
5/7/07

Term of Issuance:
Unconditional

Name of Pesticide Product:
Polyversum®

NOTICE OF PESTICIDE:

[x] Registration
Reregistration
(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):
Biopreparaty Co. Ltd.
C/O Amy Plato Roberts
Technology Sciences Group Inc.
1150 18th Street, NW, Suite 1000
Washington, DC 20036

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

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/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 unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

- (1) Submit and/or cite all data required for registration/re-registration of your product under FIFRA section 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of your product under FIFRA section 4.
(2) Add the phrase "EPA Reg. No. 82606-1" to the product label.
(3) Submit five copies of your final printed labeling before release of the product for shipment.

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

Signature of Approving Official:
Janet L. Andersen, Ph.D., Director
Biopesticides and Pollution Prevention Division (7511C)

Date:
5/7/07

EPA Form 8570-6

CONCURRENCES

Table with columns for SYMBOL, SURNAME, and DATE, containing handwritten entries for 7511P, McLooney, and 5-7-07.

2/21

# Polyversum®

(Alternate Brand Names: Biodresser®; Green Doctor®; Polidrench®; Polidresser®)

<b>Sublabel A: Agricultural Use</b> <b>Sublabel B: Turf &amp; Professional Landscape Use</b> <b>Sublabel C: Home &amp; Garden Use</b> <b>Optional Label Claims</b>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**ACTIVE INGREDIENT:**

*Pythium oligandrum* DV 74\* ..... 1.0%

**OTHER INGREDIENTS:** ..... 99.0%

**TOTAL:** ..... 100.0%

\*Contains not less than 1 X 10<sup>5</sup> cfu/gram.

EPA Reg. No.: (pending as File Symbol 81606-R)

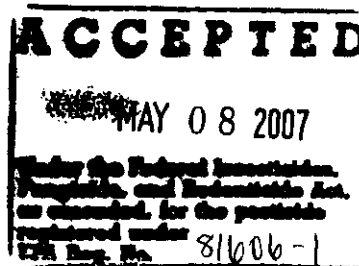
EPA Establishment No.: XXXXX-XX-XX

**Manufactured by:**

Biopreparaty Co. Ltd.  
Tylisovska 1  
Prague 6, Czech Republic

**Marketed by:**

Beta-Biologics™ Ltd.  
1003-18 Brownlow Ave.  
Toronto, Ontario, Canada M4S 2K8



3/21

**Sublabel A: Agricultural Use**

**Polyversum®**

**ACTIVE INGREDIENT:**

*Pythium oligandrum* DV 74\* ..... 1.0%

**OTHER INGREDIENTS:** ..... 99.0%

**TOTAL:** ..... 100.0%

\*Contains no less than 1 X 10<sup>5</sup> cfu/gram.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

<b>FIRST AID</b>	
<b>If Inhaled</b>	<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 by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If in eyes</b>	<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>
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.	
<b>See back panel for additional precautionary statements and directions for use.</b>	

**EPA Reg. No.:** (pending as File Symbol 81606-R)

**Net Contents:** XXX

**EPA Establishment No.:** XXXXX-XX-XX

**Manufactured by:**  
Biopreparaty Co. Ltd.  
Tylisovska 1  
Prague 6, Czech Republic

**Marketed by:**  
Beta-Biologics™ Ltd.  
1003-18 Brownlow Ave.  
Toronto, Ontario, Canada M4S 2K8

4/21

## PRECAUTIONARY STATEMENTS

**Hazard to humans and domestic animals - CAUTION.** Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling. Remove and wash contaminated clothing before reuse.

**Personal Protective Equipment (PPE):** Applicators and other handlers must wear long-sleeved shirt and long pants, waterproof gloves, and shoes plus socks. Mixer/loaders and applicators must wear a dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C), or a NIOSH approved respirator with any N, R, P, or HE filter. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization. Follow manufacturer's instructions for cleaning / maintaining PPE. Keep and wash PPE separately from other laundry.

**User Safety Requirements:** Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. 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. User should remove clothing and PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothes.

**Environmental Hazards:** Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean highwater mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation. 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.

### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted entry intervals (REI). The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 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.

**EXCEPTION:** If the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

5/21

**General Information:** (Polyversum® is for the stimulation of plant growth, the enhancement of plant strength and the prevention of fungal attack. Polyversum® mobilizes plant defense mechanisms, increasing plant resistance to pathogenic fungal attack, increasing rate of growth and increasing overall crop strength and yield.)

(Polyversum® is a (microbial seed dresser) (microbial preparation) that protects (field) crops against soilborne fungal pathogens, promotes plant growth, enhances plant strength and induces a plant defense reaction against soil and airborne pathogenic fungi.)

Polyversum® can be applied as a seed dressing, pre-plant soak, overhead spray or soil drench, or irrigation application.

**Mode of Action:** The active ingredient *Pythium oligandrum* DV 74 colonizes (the surroundings of treated and sown seeds) (the rhizosphere of treated plants). Because of its strong mycoparasitic and competitive abilities, the active ingredient suppresses the growth and antagonistic effects of many soilborne pathogenic fungi, which cause damping-off and seed, and root rots such as *Phytophthora*, *Rhizoctonia*, *Fusarium*, etc. The active ingredient also induces a defense reaction in the newly emerged plant through the stimulation of phytohormones that trigger the plant's resistance mechanisms against diseases. *Pythium oligandrum* DV 74 does not produce any antibiotics and therefore is considered a true plant growth promoter for the induction of plant resistance.

**Integrated Pest Management:** Integrate Polyversum® into an overall disease and pest management strategy whenever fungicide use is necessary. Follow practices known to reduce disease development. Consult local agricultural authorities for specific IPM strategies developed for your crop(s) and location.

**Pre-Harvest Interval:** Polyversum® can be applied up to and including the day of harvest.

**Mixing Instructions:** Shake well before use or before mixing with water.

**MIXING:** Dilute Polyversum® with water and apply using conventional ground spray equipment. Partially fill the spray tank with clean water and begin agitation. Add the specified amount of Polyversum® to the tank. Finish filling the tank to the desired volume to obtain the proper spray concentration. Maintain agitation continuously while spraying. Use spray mixture within two hours of mixing. Do not allow spray mixture to stand overnight or for prolonged periods. Use large spray nozzles. For seed dressing applications, use undiluted Polyversum®.

**COMPATIBILITY:** Do not mix Polyversum® with chemical fungicides. Consult other product's labels for additional information or restrictions concerning tank mixing. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures. Polyversum® has been evaluated for phytotoxicity on a variety of crops under various normal growing conditions. However, testing all crop varieties, in all mixtures and combinations is not feasible. Prior to treating entire crop, test a small portion of the crop. Consult your Beta-Biologics Ltd. representative for more information on Polyversum® compatibility with pesticides, surfactants and fertilizers.

**Application Sites :** Use Polyversum® on the following agricultural commodities and horticultural crops:

**Fruiting Vegetables:** eggplant, pepper and tomato.

6/21

**Leafy Vegetables:** asparagus, broccoli, cabbage, celery, collards, lettuce and spinach.

**Cucurbit Vegetables:** cantaloupe, cucumber, melon, squash, watermelon and zucchini.

**Legume Crops:** field beans, lentils, peas, peanuts, and soybeans.

**Root, Bulb, and Tuber Crops:** beets, carrots, cassava, garlic, ginger, leeks, onions, potatoes, radish, sugar beets, sweet potatoes and yams.

**Grain, Forage, Fiber and Oil Crops:** alfalfa, barley, canola, corn, cotton, hops, millet, oats, rice, rye, sesame, sorghum, sunflower, and wheat.

**Vine Crops:** grapes, kiwi and passion fruit.

**Tropical Crops:** avocado, banana, cocoa, coffee, guava, lychee nuts, mango, papaya, pineapple and plantain.

**Berry Crops:** blueberry, gooseberry, raspberry and strawberry.

**Ornamental Plants grown in greenhouses and nurseries:** African violet, begonia, bougainvillea, cacti, calla lily, chrysanthemum, cineraria, cyclamen, daffodil, dahlia, exacum, ferns, foliage plants, fuchsia, geranium, gerbera, gloxinia, hibiscus, holiday cactus, hyacinth, hosta, iris, ivy, kalanchoe, lily, lisianthus, miniature roses, orchid, peony, phlox, and poinsettia.

**Ornamental Trees and Shrubs grown in greenhouses and nurseries:** alder, apple, azalea, beech, birch, blue spruce, boxwood, camellia, cedar, crabapple, cypress, dogwood, elm, ficus, fir, flowering cherry, flowering peach, eucalyptus, forsythia, gardenia, hackberry, holly, hydrangea, larch, laurel, lilac, magnolia, maple, myrtles, oak, palms, pear, pines, poplar, privet, pyracantha, rose, rhododendron, spruce, sycamore, thuia and willow.

**Bedding Plants grown in greenhouses and nurseries:** astor, calendula, carnation, cosmos, impatiens, lobelia, marigold, nasturtium, pansy, periwinkle, petunia, snapdragon, sweet alyssum, verbena and zinnia.

**Turf Grass on sod farms:** bentgrass, Bermuda grass, bluegrass, centipede grass, fescue, ryegrass, and St. Augustine.

Use Polyversum® to suppress / control the growth of plant diseases such as: *Alternaria* spp., *Ascochyta* spp., *Botrytis cinerea*, *Fusarium* spp., *Peronosplasmopara* spp., *Phoma* spp., *Phytophthora infestans*, *Plasmopara viticola*, *Puccinia* spp., *Pythium* spp., *Rhizoctonia solani*, *Sclerotinia sclerotiorum*, *Unicula necator*, *Verticillium* spp.

**Application Instructions:** Make applications before planting and in the early stages of plant growth for control of pathogens in the soil. Reapply at 14-day intervals or as needed throughout the growing season for preventative control. Early treatment prevents diseases from developing.

**SEED DRESSING:** Use Polyversum® to protect seeds from pathogenic organisms. Shake the container of Polyversum® well before use as a seed dressing. Seeds with a rough texture can

be dusted with or rolled in Polyversum®. Excess material can be removed through a sieve. Larger quantities of seeds can be treated using a dusting machine. Seeds with a smooth surface should be moistened to improve adhesion. Immediately plant seeds that are moistened. Do not use treated seed for food, feed or oil purposes. Treat only those seeds needed for immediate use and planting. Do not store excess treated seeds beyond planting time.

**PREPLANT SOAK:** Use Polyversum® to prevent damping-off, seed rots and plant and cutting diseases on seeds, seedlings, bulbs, transplants or cuttings prior to planting. Soak seeds, bulbs, cuttings, seedlings and plants for up to thirty minutes in a suspension of Polyversum®. Prepare enough solution to insure thorough coverage.

**IRRIGATION APPLICATION:** Refer to the Chemigation section of this label for complete details on application through irrigation systems. Apply through a drip (trickle) or sprinkler system only. Apply Polyversum® at 14-day intervals or as needed throughout the growing season.

**OVERHEAD SPRAY OR SOIL DRENCH:** Apply Polyversum® using conventional equipment as a root and stem spray or drench to the point of saturation. Good coverage and wetting is required. Use large spray nozzles. The amount of spray solution to apply will vary depending on the type of crop. Most row crops will require up to 100 gallons of spray per acre. Prepare enough solution based on plant density and soil conditions to insure thorough coverage. Reapply at 14-day intervals or as needed throughout the growing season for preventative control.

**Application Rates:**

Apply as a seed dressing, as a pre-plant soak, and at least twice as a field spray after germination or planting.

**SEED DRESSING:** Apply as a seed dressing at a rate of 0.1 – 3 oz per 60 – 100 lbs seed weight unless specified below for a specific crop. Seeds with a smooth surface should be moistened prior to application to improve adhesion. Immediately plant moistened treated seeds. For dry treated seeds, plant seeds shortly after dressing.

*Barley, Rye, Soybean and Wheat* – For wet dressing, apply at a rate of 18 oz in 1 – 3 gallons of water/ton seed. Plant seeds shortly after dressing.

*Potatoes* – Apply at a rate of 1 oz / ton seeds or bulbs. Plant shortly after dressing.

*Garlic bulbs* - Apply as a bulb dressing at 2 lbs / ton.

*Onion & leek bulbs* - Apply as a bulb dressing at 0.5 lbs / ton.

**PRE-PLANT SOAK:** Apply as a pre-plant soak at a rate of 0.2 oz / 3 gallons of water unless otherwise noted. Soak seedlings or cuttings for 30 minutes. Once planted, use remaining suspension as a stem and root drench.

*Strawberry* - Apply at a rate of 0.08 oz / 1 gallon of water.

**OVERHEAD SPRAY OR SOIL DRENCH:** Apply at a rate of 1.5 – 3 oz / acre in sufficient water to ensure thorough coverage. Apply 1<sup>st</sup> application 14 days after planting. Make repeat applications at 14-day intervals throughout the growing season.

For overhead spray or soil drench rates specific to a given crop, see the table below. If your crop is not listed below, follow general directions above.

**Application Rates:**

Crops	Oz/Acre	Notes
Barley Rye Wheat	1.5 - 3	For winter cereals: Apply 1 <sup>st</sup> application in the autumn when the soil temperature is 10°C or greater. Apply 2 <sup>nd</sup> application in the spring when soil temperature is 10°C or greater. Apply 3 <sup>rd</sup> application 30 days after spring application.  For spring cereals: Apply 1 <sup>st</sup> application in the spring when soil temperature is 10°C or greater. Apply 2 <sup>nd</sup> application 30 days after spring application.
Canola Corn Sunflower	1.5 - 3	For canola: Apply 1 <sup>st</sup> application in the autumn after shoot emergence. Apply 2 <sup>nd</sup> application in the spring when soil temperature is 10°C or greater. Apply 3 <sup>rd</sup> application 30 days after spring application.  For corn and sunflower: Apply 1 <sup>st</sup> application at the time of three true leaves. Apply 2 <sup>nd</sup> application 30 days later.
Hops	1.5 - 3	Apply 1 <sup>st</sup> application at the beginning of vegetative growth. Make repeat applications at 14-day intervals throughout the growing season.
Soybeans	1.5 - 3	Apply 1 <sup>st</sup> application in the spring when soil temperature is 10°C or greater. Apply 2 <sup>nd</sup> application 30 days after spring application.
Potatoes	1.5 - 3	Apply 1 <sup>st</sup> application when plants are 10 cm high. Apply 2 <sup>nd</sup> application 14 days later. Continue applications at 14-day intervals throughout the growing season.
Grapes	1.5 - 3	Apply 1 <sup>st</sup> application one week after cotyledon emergence. Make repeat applications at 14-day intervals throughout the growing season.
Beets	1.5 - 3	Apply 1 <sup>st</sup> application one week after cotyledon emergence. Make repeat applications at 21-day intervals throughout the growing season.
Garlic Onions Leeks	1.5 - 3	Apply 1 <sup>st</sup> application one week after cotyledon emergence. Make repeat applications at 14-day intervals throughout the growing season.
Ornamental Plants  Bedding Plants	1.5 - 3	Apply 1 <sup>st</sup> application one week after cotyledon emergence. Make repeat applications at 14-day intervals throughout the growing season.
Ornamental Trees	1.5 - 3	Apply 1 <sup>st</sup> application one week after cotyledon emergence. Make repeat applications at 14-day intervals throughout the growing season.
Turf Grass on sod farms	1.5 - 3	Make 1 <sup>st</sup> application at the start of the growing season. Make 2 <sup>nd</sup> application 14-days later. Make repeat applications at 30-day intervals throughout the growing season.



**STORAGE AND DISPOSAL**

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

**Pesticide Storage:** Store in a cool, dry place. Store in original container only. Keep container tightly closed when not in use.

**Pesticide Disposal:** Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility.

**Container Disposal:** Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Do not reuse container.

**CHEMIGATION:**

**General Requirements -**

- 1) Apply this product only through a drip (trickle) system or sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set or hand move irrigation systems. Do not apply this product through any other type of irrigation system.
- 2) Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- 3) If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 4) 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 for public water systems are in place.
- 5) A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

**Specific Requirements for Chemigation Systems Connected to Public Water Systems -**

- 1) 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.
- 2) 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.
- 3) 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.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

**Specific Requirements for Drip (Trickle) Chemigation -**

- 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 controls 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 filled with a system interlock.

**Specific Requirements for Sprinkler Chemigation -**

- 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 controls 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 filled with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

**Application Instructions -**

- 1) Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues may cause product to lose effectiveness or strength.

11/21

- 2) Determine the treatment rates as indicated in the directions for use and make proper dilutions.
- 3) Prepare a solution in the chemical tank by filling the tank with the required water and then adding product as required. The product will immediately go into suspension without any required agitation.
- 4) Do not apply Polyversum® in conjunction with any other pesticides or fertilizers; this has the potential to cause reduced performance of the product. Avoid application in this manner.

12/21

**Sublabel B: Turf & Professional Landscape Use**

**Polyversum®**

**ACTIVE INGREDIENT:**

*Pythium oligandrum* DV 74\* ..... 1.0%

**OTHER INGREDIENTS:** ..... 99.0%

**TOTAL:** ..... 100.0%

\*Contains no less than 1 X 10<sup>5</sup> cfu/gram.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

<b>FIRST AID</b>	
<b>If inhaled</b>	<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 by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If in eyes</b>	<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>
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.	
<b>See back panel for additional precautionary statements and directions for use.</b>	

**EPA Reg. No.:** (pending as File Symbol 81606-R)  
**EPA Establishment No.:** XXXXX-XX-XX

**Net Contents:** XXX

**Manufactured by:**  
Biopreparaty Co. Ltd.  
Tylisovska 1  
Prague 6, Czech Republic

**Marketed by:**  
Beta-Biologics™ Ltd.  
1003-18 Brownlow Ave.  
Toronto, Ontario, Canada M4S 2K8

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION:** Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

**USER SAFETY REQUIREMENTS:** Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

**ENVIRONMENTAL HAZARDS:** Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean highwater mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

**DIRECTIONS FOR USE**

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

Keep unprotected persons out of treated areas until sprays have dried.

**General Information:**

(Polyversum® stimulates plant growth, enhances plant strength and prevents fungal attack. Polyversum® mobilizes plant defense mechanisms, increasing plant resistance to pathogenic fungal attack, increasing rate of growth and increasing overall plant strength and yield.)

(Polyversum® is a (microbial seed dresser) (microbial preparation) that protects turf and lawns against soilborne fungal pathogens, promotes plant growth, enhances plant strength and induces a plant defense reaction against soil and airborne pathogenic fungi.)

Polyversum® can be applied as a seed dressing, pre-plant soak, overhead spray or soil drench, or irrigation application.

**Mode of Action:** The active ingredient *Pythium oligandrum* DV 74 colonizes the rhizosphere of treated grasses. Because of its strong mycoparasitic and competitive abilities, the active ingredient suppresses the growth and antagonistic effects of many soilborne pathogenic fungi, which cause damping-off and seed, and root rots such as *Phytophthora*, *Rhizoctonia*, *Fusarium*, etc. The active ingredient also induces a defense reaction in the newly emerged plant, through stimulation of the phytohormones, which are involved in the resistance mechanisms of the plant against diseases. *Pythium oligandrum* DV 74 does not produce any antibiotics and therefore is considered a true plant growth promoter for the induction of plant resistance.

**Integrated Pest Management:** Integrate Polyversum® into an overall disease and pest management strategy whenever fungicide use is necessary. Follow practices known to reduce disease development. Consult local agricultural authorities for specific IPM strategies developed for location.

**Mixing Instructions:** Shake well before use or before mixing with water.

14/21

**MIXING:** Dilute Polyversum® with water and apply using conventional ground spray equipment. Partially fill the spray tank with clean water and begin agitation. Add the specified amount of Polyversum® to the tank. Finish filling the tank to the desired volume to obtain the proper spray concentration. Maintain agitation continuously while spraying. Use spray mixture within two hours of mixing. Do not allow spray mixture to stand overnight or for prolonged periods. Use large spray nozzles. If application equipment does not have large nozzles or internal mixing capability, pour suspension through a fine sieve before placement into the spray tank. For seed dressing applications, use undiluted Polyversum®.

**COMPATIBILITY:** Do not mix Polyversum® with chemical fungicides. Consult specific product labels for additional information or restrictions concerning tank mixing. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures. Polyversum® has been evaluated for phytotoxicity on a variety of crops under various normal growing conditions. However, testing all crop varieties, in all mixtures and combinations is not feasible. Prior to treating entire crop, test a small portion of the crop for sensitivity. Consult your Beta-Biologics Ltd. representative for more information on Polyversum® compatibility with pesticides, surfactants and fertilizers.

**Application Sites:** Use Polyversum® on the following turf and ornamentals:

**Ornamental Plants in parks, ornamental gardens, golf courses, and public lawns and grounds:** begonia, bougainvillea, chrysanthemum, cyclamen, dahlia, ferns, foliage plants, fuchsia, ivy, lily, miniature roses, orchid, peony, phlox, and poinsettia.

**Ornamental Trees and Shrubs in parks, ornamental gardens, golf courses, and public lawns and grounds:** alder, azalea, beech, birch, blue spruce, boxwood, camellia, cedar, crabapple, cypress, dogwood, elm, ficus, fir, flowering cherry, flowering peach, eucalyptus, forsythia, gardenia, hackberry, holly, hydrangea, larch, laurel, lilac, magnolia, maple, myrtles, oak, pines, poplar, privet, pyracantha, rhododendron, spruce, sycamore, thuia and willow.

**Bedding Plants in parks, ornamental gardens, golf courses, and public lawns and grounds:** astor, calendula, carnation, cosmos, impatiens, lobelia, marigold, nasturtium, pansy, petunia, snapdragon, sweet alyssum, verbena and zinnia.

**Turf Grass in parks, golf courses and public lawns and grounds:** bentgrass, Bermuda grass, bluegrass, centipede grass, fescue, ryegrass, and St. Augustine.

Use Polyversum® to suppress / control the growth of plant diseases such as: *Alternaria* spp., *Ascochyta* spp., *Botrytis cinerea*, *Fusarium* spp., *Peronosplasmopara* spp., *Phoma* spp., *Phytophthora infestans*, *Puccinia* spp., *Pythium* spp., *Rhizoctonia solani*, *Sclerotinia sclerotiorum*, *Verticillium* spp.

**Application Instructions:** Make applications before planting and in the early stages of plant growth for initial control. Reapply at 14-day intervals or as needed throughout the growing season for preventative control. Early treatment prevents diseases from developing.

**SEED DRESSING:** Use Polyversum® to protect seeds from pathogenic organisms. Seeds with a rough texture can be dusted with or rolled in Polyversum®. Excess material can be removed through a sieve. Larger quantities of seeds can be treated using a dusting machine. Seeds with a smooth surface should be moistened to improve adhesion. Immediately plant seeds that

15/21

are moistened. Do not use treated seed for food, feed or oil purposes. Treat only those seeds needed for immediate use and planting. Do not store excess treated seeds beyond planting time.

**PREPLANT SOAK:** Use Polyversum® to prevent damping-off, seed rots and plant and cutting diseases on seeds, seedlings, bulbs, transplants or cuttings prior to planting. Soak seeds, bulbs, cuttings, seedlings and plants for up to thirty minutes in a suspension of Polyversum®. Prepare enough solution to insure thorough coverage.

**IRRIGATION APPLICATION:** Refer to the Chemigation section of this label for complete details on application through irrigation systems. Apply through a drip (trickle) or sprinkler system only. Apply Polyversum® at 14-day intervals or as needed throughout the growing season.

**OVERHEAD SPRAY OR SOIL DRENCH:** Apply Polyversum® using conventional equipment as to the point of saturation. Good coverage and wetting is required. The amount of spray solution to apply will vary depending on application site. Most applications will require up to 100 gallons of spray per acre. Prepare enough solution based on plant density and soil conditions to insure thorough coverage. Reapply at 14-day intervals or as needed throughout the growing season for preventative control.

**Application Rates:**

Apply as a seed dressing, as a pre-plant soak, and at least twice as a field spray after germination or planting.

**SEED DRESSING:** Apply as a seed dressing at a rate of 0.1 – 3 oz per 60 – 100 lbs seed weight. Seeds with a smooth surface should be moistened prior to application to improve adhesion. Immediately plant moistened treated seeds. For dry treated seeds, plant seeds shortly after dressing.

**PRE-PLANT SOAK:** Apply as a pre-plant soak at a rate of 0.2 oz / 3 gallons. Soak seedlings or cuttings for 30 minutes. Once planted, use remaining suspension as a stem and root drench.

**OVERHEAD SPRAY OR SOIL DRENCH:** Apply at a rate of 1.5 – 3 oz / acre in sufficient water to ensure thorough coverage. For ornamental plants, bedding plants, and ornamental trees, apply first application one week after cotyledon emergence. Make repeat applications at 14-day intervals throughout the growing season. For turf grass, apply 1<sup>st</sup> application 14 days after planting. Make repeat applications at 14-day intervals throughout the growing season. Apply in sufficient water to ensure full coverage.

**STORAGE AND DISPOSAL**

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

**Pesticide Storage:** Store in a cool, dry place. Store in original container only. Keep container tightly closed when not in use.

**Pesticide Disposal:** Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility.

**Container Disposal:** Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Do not reuse container.

**CHEMIGATION:**

**General Requirements -**

- 1) Apply this product only through a drip (trickle) system or sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set or hand move irrigation systems. Do not apply this product through any other type of irrigation system.
- 2) Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- 3) If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 4) 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 for public water systems are in place.
- 5) A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

**Specific Requirements for Chemigation Systems Connected to Public Water Systems -**

- 1) 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.
- 2) 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.
- 3) 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.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

**Specific Requirements for Drip (Trickle) Chemigation -**

- 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 controls 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 filled with a system interlock.

**Specific Requirements for Sprinkler Chemigation -**

- 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 controls 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 filled with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

**Application Instructions -**

- 1) Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues may cause product to lose effectiveness or strength.
- 2) Determine the treatment rates as indicated in the directions for use and make proper dilutions.
- 3) Prepare a solution in the chemical tank by filling the tank with the required water and then adding product as required. The product will immediately go into suspension without any required agitation.
- 4) Do not apply Polyversum® in conjunction with any other pesticides or fertilizers; this has the potential to cause reduced performance of the product. Avoid application in this manner.

18/21

**Sublabel C: Home & Garden Use**

**Polyversum®**

**ACTIVE INGREDIENT:**

*Pythium oligandrum* DV 74\* ..... 1.0%

**OTHER INGREDIENTS:** ..... 99.0%

**TOTAL:** ..... 100.0%

\*Contains no less than 1 X 10<sup>5</sup> cfu/gram.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

<b>FIRST AID</b>	
<b>If inhaled</b>	<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 by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If in eyes</b>	<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>
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.	
<b>See back panel for additional precautionary statements and directions for use.</b>	

**EPA Reg. No.:** (pending as File Symbol 81606-R)  
**EPA Establishment No.:** XXXXX-XX-XX

**Net Contents:** XXX

**Manufactured by:**  
Biopreparaty Co. Ltd.  
Tylisovska 1  
Prague 6, Czech Republic

**Marketed by:**  
Beta-Biologics™ Ltd.  
1003-18 Brownlow Ave.  
Toronto, Ontario, Canada M4S 2K8

### PRECAUTIONARY STATEMENTS

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION:** Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

**USER SAFETY REQUIREMENTS:** Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

**ENVIRONMENTAL HAZARDS:** Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean highwater mark. Do not contaminate water when cleaning equipment or disposing of equipment washwater.

### DIRECTIONS FOR USE

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

**How it Works:** Polyversum® protects plants and lawns against fungal pathogens, promotes plant growth, and enhances plant strength. The active ingredient in Polyversum® is a naturally-occurring microbial organism that suppresses the growth and antagonistic effects of many soilborne pathogenic fungi that cause damping-off and root rots, AND the active ingredient induces a defense reaction in plants, which promotes resistance to disease and other stresses.

**Uses:** Use Polyversum® to promote plant growth and manage plant diseases, such as bacterial leaf spot, blackleaf spot, *Botrytis*, *Fusarium* wilt and powdery mildew. Use Polyversum® on roses and other flowers, vegetables, fruiting trees, berries, vines, herbs, root vegetables, ornamental trees and shrubs, lawns and indoor plants.

**How to Apply:** Shake the container of Polyversum® well before use or before mixing with water. Keep unprotected persons out of treated gardens and off treated lawns until sprays have dried.

1. Fill a 1-3 gallon spray tank with water.
2. Add one packet (0.25 oz) to the water. Mix thoroughly. Use spray solution within 2 hours of mixing.
3. Use large spray nozzles. If application equipment does not have large nozzles, pour suspension through a fine sieve before placement into the spray tank.
4. Spray roots and stems until completely wet.
5. Make repeat applications at 14-day intervals throughout the growing season.

**Compatibility:** Do not mix Polyversum® with chemical fungicides or fertilizers.

### STORAGE AND DISPOSAL

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

**Storage:** Store in a cool, dry place.

**If empty:** Do not reuse container. Place in trash and offer for recycling if available.

**If partially filled:** Call your local solid waste agency or (800) 858-7378 (National Pesticide Information Center) for disposal instructions. Never place unused product down any indoor or outdoor drain.

**OPTIONAL LABEL CLAIMS**

**General Claims:**

- Biofungicide.
- Biological Seed Dresser.
- Plant Growth Stimulator.
- Polversum® is patented worldwide and has multiple applications in turf, horticulture and agricultures.
- Opening the door to sustainable agriculture for the 21<sup>st</sup> century.
- Establishes an optimal environment for healthy plant growth.
- Stimulates the development of root systems.
- Does not develop resistance in treated plants.
- (Easy to use) (Simple application procedures)
- Polversum® is effective the whole growing season.
- For use in irrigation systems.
- Two-year shelf life.

**Claims for Sublabel A – Agricultural Uses:**

- Stimulates plant growth, enhances plant strength and prevents fungal diseases.
- Provides biological protection of seeds.
- Stimulates the growth of seedlings.
- Promotes significantly higher yields.
- No pre-harvest interval (PHI).
- Low Reentry Interval (REI).

**Claims for Sublabel B- Turf Uses:**

- Turf Growth Stimulator.
- Helps fight stress in sudden dry conditions.

- Stimulates the uptake of phosphorous.
- By increasing root systems, (Product Name) can contribute to reduced water uses and lessen the need for added nutrients.
- Suitable as a seed dresser.
- Suited for all types of turf grass.

**Claims for Sublabel C – Home & Garden Uses:**

- Promotes plant growth.
- Helps manage disease.
- Stimulates plant growth, enhances plant strength and prevents fungal diseases.
- Larger, healthier plants and flowers.
- Hearty plants, fruits and vegetables.