

AT LEAST FIVE APPLICATIONS OF ORGANO-SOL HERBICIDE PERFORMED EVERY TWO WEEKS WILL BE REQUIRED TO ACHIEVE AN ONGOING PARTIAL SUPPRESSION OF CLOVER WEEDS

# Organo-Sol Herbicide

A Look at a so-called Green Alternative to conventional weed control products

## Mode of Action of Organo-Sol

Organo-Sol is classified as a POST-EMERGENT herbicide.

Due to the presence of Lactic Acid and Citric Acid in the end-use product, Organo-Sol has a LOW PH (approximately 3.5) that allows for penetration of plant cells causing tissue necrosis and suppression of plant growth.

The weed species that are the MOST SUSCEPTIBLE to Organo-Sol are those with a THIN LEAF CUTICLE.

## Suppression versus Control

Organo-Sol merely « suppresses » certain weeds.

Moreover, Organo-Sol will NOT provide the same ERADICATIVE EFFECT of CON-VENTIONAL post-emergent herbicides like 2,4-D and Killex, and it is certainly NOT an effective alternative.

In general, « suppression » occurs when LESS THAN FIFTY PER CENT of the damaging weed population is killed by a single application of herbicide.

« Suppression » is NOT the same as « control ».

products, such as 2,4-D and Killex, which will provide a VERY HIGH PER CENT kill of damaging weeds.

In some circumstances, Organo-Sol may be ALMOST TOTALLY INEFFECTIVE, WITH ONLY 15 PER CENT SUPPRESSION.

Organo-Sol will require EXTREMELY-HIGH-INPUTS OF ACTIVE INGREDIENT - AT LEAST FIVE APPLICATIONS PERFORMED EVERY TWO WEEKS WILL BE REQUIRED TO ACHIEVE AN ONGOING PARTIAL SUPPRESSION OF CLOVERS. Organo-Sol will be STUNNINGLY EXPENSIVE to use.

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## Efficacy of Organo-Sol on Red and White Clovers

The treatment of 25 per cent v/v Organo-Sol plus 3 per cent v/v Kornspec Adjuvant resulted in an average of 41 per cent control of clovers in the first week after treatment, and 49 per cent control of clovers in the second week after

In the one study, in which a later evaluation was conducted, clovers had almost completely recovered in the third week after treatment.

The treatment of 50 per cent v/v Organo-Sol plus 3 per cent v/v Kornspec Adjuvant resulted in an average of 50 per cent control of clovers in the first week after treatment, and 55 per cent control of clovers in the second week after

Recovery was evident in the third week after treatment in which control of clovers had declined to 18 per cent.

Data from three controlled environment studies demonstrated that Organo-Sol required Kornspec Adjuvant at 3 per cent v/v to achieve partial suppression of

However, Kornspec Adjuvant is no longer registered in Canada.

Assist Oil Concentrate, XA Oil Concentrate, and Kornoil Concentrate were supported as alternatives to Kornspec Adjuvant based on data generated from treatments of Organo-Sol plus Kornspec Adjuvant.

Since the herbicidal activity of Organo-Sol is short term, it would be expected that maximum performance requires multiple applications.

Data from two field studies demonstrated that at least five applications made every two weeks are required to achieve an ongoing partial suppression of clovers.

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Efficacy of Organo-Sol on Bird's-Foot Trefoil, Black Medick, and Wood Sorrel

The efficacy of the treatment of 25 per cent v/v Organo-Sol plus 3 per cent v/v Kornspec Adjuvant for control of bird's-foot trefoil, black medick, and wood

Control was reported to be 28 per cent for bird's-foot trefoil, 17 per cent for black medic, and 15 per cent for wood sorrel.

For the treatment of 50 per cent v/v Organo-Sol plus 3 per cent v/v Kornspec Adjuvant, maximum control was observed to be 57 per cent for bird's-foot trefoil (in one study), 65 per cent for black medick (in one study) and 50 per cent for wood sorrel (in two studies).

Partial suppression claims are supported based on the submitted data in combination with the following points -

Faboideae sub-family of the Fabaceae family of the Fabales order.

belongs to the same subclass as the Fabales order.

Leaves of plants belonging to the Fabales or Oxidales orders are typically DELI-CATE with THIN CUTICLES thereby facilitating uptake of the herbicide.

Selected and adapted excerpts from Health Canada report.

OBSERVERS HAVE REMARKED THAT IT IS INCONCEIVABLE THAT HEALTH CANADA WOULD REGISTER AND SUPPORT A HERBICIDE WITH SUCH A LOW LEVEL OF EFFICACY

AT BEST, ORGANO-SOL IS A WEAK HERBICIDE THAT MAY HAVE SOME USES FOR DO-IT-YOURSELF WEED MANAGEMENT

ORGANO-SOL CANNOT BE TAKEN SERIOUSLY AS A COMMERCIAL PRODUCT FOR USE IN THE PROFESSIONAL LAWN CARE INDUSTRY

MOST ASSUREDLY, HEALTH CANADA WOULD NEVER IN A MILLION YEARS CONSIDER REGISTERING THIS TYPE OF PRODUCT FOR USE IN THE AGRICULTURE INDUSTRY

IT APPEARS AS THOUGH HEALTH CANADA IS USING THE PROFESSIONAL LAWN CARE INDUSTRY AS THE DUMPING-GROUND FOR BOGUS INFERIOR GREEN ALTERNATIVE PEST CONTROL PRODUCTS

## Virtually All Green Alternatives Are Bogus

Green Alternatives to replace conventional pest control products.

Virtually all Green Alternatives are BOGUS, displaying negative characteristics such as the

- Green Alternatives may be ALMOST TOTALLY INEFFECTIVE except under very specific
- Green Alternatives may be PROHIBITED in some jurisdictions.
- Green Alternatives may be questionably HIGHER IN TOXICITY.
- Green Alternatives may be STUNNINGLY MORE EXPENSIVE to use when compared to conventional pest control products.
- Green Alternatives may be SUPPLIED by the same Environmental-Terror-Organizations
- Green Alternatives may have NEGATIVE SIDE-EFFECTS like phyto-toxicity (an effect that adversely affects plant growth ) or metal corrosion or rodent-attractant.
- Green Alternatives may NOT be registered as pest control products, and therefore, are UNREGULATED.
- Green Alternatives may NOT fully control pests, and may only provide PARTIAL SUP-PRESSION.
- Green Alternatives may NOT have a full range of safety information such as HUMAN TOX-ICITY and ENVIRONMENTAL IMPACT, which is necessary for the registration of conventional
- Green Alternatives may require EXTREMELY-HIGH-INPUTS OF ACTIVE INGREDIENT may be exorbitantly high.
- Green Alternatives may require MORE PERSONAL PROTECTION for the user.
- Green Alternatives may NOT BE SAFER, NOT BETTER, and NOT MORE EFFECTIVE.

### Overall, Green Alternatives Are a Dismal Failure

Overall, Green Alternatives are a DISMAL FAILURE since they merely SUPPRESS or INHIBIT

On the other hand, conventional pest control products FULLY and EFFECTIVELY CONTROL pests, without the need for excessively repeating applications, or without using exorbitant quantities of active ingredient.

FOR EFFECTIVE LAWN MAINTENANCE AND ADEQUATE BROAD-LEAVED WEED CONTROL.

### Description of Organo-Sol

Summary of Characteristics of Organo-Sol —

- Broad-leaved weed « suppression »
- Cosmetic
- Herbicide
- Non-Selective when used as a spot application
- Not an effective alternative to 2,4–D
- Post-emergent
- Selective when used as a broadcast application
- Weed suppression and not control
- Will only « *suppress* » certain weeds

Organo-Sol is a microbial BIO-PESTICIDE made of dairy products fermented by lactic acid bacteria.

Organo-Sol is a turf herbicide for BROAD-LEAVED POST-EMERGENT weed « suppression »

It is packaged as a SUSPENSION for LIQUID applications on turf.

Organo-Sol will NOT provide the same ERADICATIVE EFFECT of conventional POST-

ORGANO-SOL WILL NOT WORK AS WELL as 2,4-D and Killex.

### Active Ingredients in Organo-Sol

According to the label Organo-Sol is a lacto-fermented liquid herbicide suspension.

Present as fermentation products of • Lactobacillus rhamnosus strain LPT-21 • Lactobacillus casei strain LPT-111 • Lactococcus lactis ssp. cremoris strain M11/CSL • Lactococcus lactis ssp. lactis strain LL64/CSL • Lactococcus lactis ssp. lactis strain LL102/CSL.

#### Lactic Acid

Lactic Acid is naturally PRESENT IN ANIMALS AND HUMANS, in muscle cells when the oxy-

Lactic Acid is naturally PRESENT IN MANY EDIBLE FOOD COMMODITIES such as apples and candy, and salad dressings.

Lactic Acid is also formed by natural fermentation in sour dairy products, fermented fruits and vegetables, and sausages.

Lactic Acid has MANY CHEMICAL APPLICATIONS IN INDUSTRY, such as salts, plasticizers, adhesives, in pharmaceuticals, as a mordant in dyeing wool, in de-hairing/plumping/and decalcifying hides, and as a solvent.

into the environment through various waste streams.

In PEST CONTROL PRODUCTS specifically, Lactic Acid is classified on the United States Environmental Protection Agency's (U.S. EPA) List of Inert Ingredients as a List 4B, an INERT in pest control products WILL NOT ADVERSELY AFFECT PUBLIC HEALTH AND THE ENVI-RONMENT.

#### Citric Acid

Citric Acid is a weak organic acid that is FOUND NATURALLY in soil and water, natural waters, and sewage treatment systems.

Citric Acid plays a key role in the CITRIC ACID CYCLE, the metabolic energy system that is active in all animals and higher plants.

Citric Acid is also naturally present at high levels in many EDIBLE FOOD commodities, such as in citrus fruit (particularly lemons and limes), raspberries, tomatoes, and potatoes.

Citric Acid is also WIDELY USED IN THE FOOD INDUSTRY, as an acidulant in beverages tioning agent for laundry detergents, shampoos, cosmetics, and chemical cleaning products.

It is reasonable to expect that these industrial uses may result in the release of Citric Acid into the environment through various waste streams.

#### Occurrence of Lactic Acid in Nature

Lactic Acid bacteria are considered WIDESPREAD IN NATURE.

Lactic Acid bacteria can be recovered from water, soil, manure, sewage, and silage as well as from a variety of plant material such as fruit, vegetables, grass, and clover.

Lactic Acid bacteria are also part of the COMMENSAL MICROFLORA OF HUMANS and animals as part of the gastrointestinal tract, oral cavity, and vagina.

Published literature indicates that although Lactic Acid bacteria can survive outside of the dairy environment, they are UNLIKELY TO THRIVE.

Furthermore, the number of Lactic Acid bacteria contained in Organo-Sol is RELATIVELY LOW.

Since the use of Organo-Sol is NOT LIKELY to result in an increase of the number of Lactic from Lactic Acid bacteria is NEGLIGIBLE.

### Environmental Risks Are NOT of Concern

Citric Acid and Lactic Acid readily undergo bio-transformation in terrestrial and aquatic envi-

expected to result in a considerable increase in exposure to non-target terrestrial and aquatic organisms.

Furthermore, reports in published literature of cases of adverse effects, as well as published toxicological end-points, DO NOT suggest that exposure of non-target terrestrial and aquatic organisms to the levels of Citric Acid and Lactic Acid in Organo-Sol will pose a concern with respect to toxicity.

Based on the available data, Citric Acid and Lactic Acid are expected to pose NEGLIGIBLE RISK TO TERRESTRIAL AND AQUATIC ORGANISMS under the conditions of use.



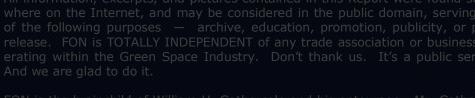
Force Of-De Nature (FON) presents THE WHOLE TRUTH FROM AN INDEPENDENT PERSPECTIVE from National Organization Responding Against Huje that seek to harm or misinform the Green Space Industry (NORAHG). It is a series of Reports destined for the Green Space Industry, the Environmental Terror Movement, Governments, and the Media, nationwide across Canada, the United States, and overseas. This Report has been developed for the education and entertainment of the reader by providing TECHNICAL INFORMATION WITH COMMENTARY. The neutrality of the Report might be disputed.



The information presented in this Report is for preliminary planning only. Before making a final decision, the turf manager is expected to obtain trusted expert advice from extension specialists, local distributors and/or agronomists. All decisions must take into account the prevailing growing conditions, the time of year, and the established management practices.



All products mentioned in this Report should be used in accordance with the manufacturer's directions, and according to provincial, state, or federal law. For the official advantages, benefits, features, precautions, and restrictions concerning any product, the turf manager must rely only on the information furnished by the manufacturer. The mention of trade names does not constitute a guarantee or a warranty.





FON is the brainchild of William H. Gathercole and his entourage. Mr. Gathercole is a principal founder of the Modern Professional Lawn Care Industry in both Ontario and Quebec. He holds a degree in Horticulture from the University of Guelph, and another pure and applied science degree from McGill University. He has worked in virtually all aspects of the Green Space Industry, including golf, professional lawn care, and distribution. Mr. Gathercole has supervised, consulted, programmed, and/or overseen the successful execution of hundreds of thousands of management operations in the urban landscape. He has trained, instructed, and advised thousands of turf managers and technicians. Mr. Gathercole has also been an agricultural agronomist. Mr. Gathercole is personally credited for crafting the Exception Status that has allowed the Golf Industry to avoid being subjected to the prohibition of pest control products. He is also the creator of the signs that are now used for posting after application. Mr. Gathercole is now retired from FON, although his name continues to appear as the founder.



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