Introduction

Despite claims to the contrary, overall, there are NO viable, efficacious, or economical Green Alternatives to replace conventional pest control products.

**Virtually all Green Alternatives are Bogus**, displaying negative characteristics such as the following —

- Green Alternatives may be almost **totally ineffective** except under very specific circumstances.
- Green Alternatives may require **extremely high**–**inputs of active ingredient** since they will otherwise be **less effective**.
- 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 that sought the prohibition of conventional pest control products.
- Green Alternatives may have **negative side-effects** like **phyto–toxicity** (an effect that adversely affects plant growth) or **corrosion** or **rodent–attractant**.
- Green Alternatives may require more personal protection for the user.
- Green Alternatives may not be safer, nor better, nor more effective.
Cornerstones for Effective Lawn Care and Weed Control Programs

Within the collective history of the Green Space Industry, there is considerable experience and research regarding the effective implementation of weed control programs.

For an EFFECTIVE LAWN MAINTENANCE PROGRAM, there are THREE MAINTENANCE CORNERSTONES that must be adopted in order to SATISFY and RETAIN a Professional Lawn Care customer —

• A customer must be provided with a THICK LAWN
• A customer must be provided with a GREEN LAWN
• A customer must be provided with a WEED–FREE LAWN

Additionally, there is the PRINCIPAL CORNERSTONE FOR ADEQUATE BROAD–LEAVED WEED CONTROL —

For established customers with a well–maintained lawn, TWO TO TWO–AND–A–HALF BLANKET APPLICATIONS OF A THREE–WAY PHENOXY HERBICIDE ARE NECESSARY EVERY SEASON for adequate broad–leaved weed control. This philosophy is even reflected in the label recommendations of herbicides like Killex, a conventional three–way weed control product.

Environmental–Maniac–Activists claim that so–called « organic and non–toxic pesticides » like Corn Gluten Meal are available as suitable Green Alternatives to conventional pest control products. This is NOT TRUE! Overall, Green Alternatives are simply unable to provide satisfactory results to meet the CORNERSTONES FOR A SUCCESSFUL LAWN MAINTENANCE PROGRAM.
Overall, Green Alternatives are a DISMAL FAILURE since they merely SUPPRESS or INHIBIT pests of turf and require an excessive number of repeat applications, often with EXTREMELY–HIGH–INPUTS OF ACTIVE INGREDIENT. 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.

Furthermore, some Green Alternatives are actually MORE TOXIC than conventional pest control products.

It is difficult to «fit» a Green Alternative, such as Corn Gluten Meal, within the CORNERSTONES FOR EFFECTIVE LAWN MAINTENANCE AND ADEQUATE BROAD–LEAVED WEED CONTROL.

General Description of Corn Gluten Meal

Corn Gluten Meal is a «natural» turf herbicide that is derived from plant materials, and has been patented as a NATURAL PRE–EMERGENT HERBICIDE for the control of weeds in turfgrass. It is packaged as a GRAIN PRODUCT for dry applications on turf.

Corn Gluten Meal is ALLEGED to be a suitable Green Alternative to conventional phenoxy herbicides like 2,4–D or Killex. This is NOT TRUE, since Killex is a post–emergent herbicide, whereas Corn Gluten Meal is a pre–emergent.

Furthermore, Corn Gluten Meal is simply unable to provide satisfactory results to meet the CORNERSTONES FOR A SUCCESSFUL LAWN MAINTENANCE PROGRAM.

Corn Gluten Meal can ONLY used as a pre–emergent — which means it is NOT effective for pre–existing weeds — and consequently provides ONLY poor results.
**Corn Gluten Meal**
A Look at a so-called Green Alternative to conventional pest control products

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**Corn Gluten Meal may actually increase the growth of established and uncontrolled weeds**

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**Summary of Characteristics of Corn Gluten Meal**

- Applied as grain over entire turf surface
- Cosmetic
- Natural and Organic
- Not an effective alternative to 2,4-D
- Pre-emergent
- Selective
- Slow-acting
- Soil active
- Will only « inhibit » certain weeds

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**Active Ingredients in Corn Gluten Meal**

Corn Gluten Meal is a by-product of the corn wet-milling process, and is used for animal feed.

It contains a mixture of protein, lipid, carbohydrate, and ash.

Additionally, Corn Gluten Meal contains 10 per cent nitrogen by weight, and is a source of nitrogen.

This product may actually increase the growth of established and uncontrolled weeds since it provides nitrogen with every treatment.
Corn Gluten Meal
A Look at a so-called Green Alternative to conventional pest control products

Corn Gluten Meal will NOT work as well as 2,4-D and Killex

Mode of Action of Corn Gluten Meal

Corn Gluten Meal is classified and patented as a PRE-EMERGENT herbicide, which means that it “inhibits” or “suppresses” certain weeds before they germinate and sprout from the soil.

Moreover, this product will NOT provide the same ERADICATIVE EFFECT of conventional POST-EMERGENT herbicides like 2,4-D and Killex, and it is certainly NOT an effective alternative.

Corn Gluten Meal has NO post-emergent effect on weeds, and, unfortunately, it may actually INCREASE THE GROWTH of established and uncontrolled weeds since it does provide nitrogen with every treatment.

Time of Application of Corn Gluten Meal

Corn Gluten Meal must be applied BEFORE weed seeds germinate.

Following treatment, weed seedling shoots will emerge normally, but the development of the emerging root is “inhibited” or “suppressed” by Corn Gluten Meal. After a period of water stress, the seedlings wilt and die because their root systems have not developed properly.

By contrast, conventional herbicides, like 2,4-D and Killex, will quickly destroy the entire plant. A program of one to three applications of Killex will provide season-long CONTROL of the majority of broad-leaved weeds.

Corn Gluten Meal will fail to control weeds with the same success as conventional herbicides like 2,4-D and Killex.
Suppression versus Control

Corn Gluten Meal CANNOT be consistently considered as a true alternative to conventional herbicides, since the weed pests are often only « inhibited » or « suppressed », and NOT CONTROLLED.

« Inhibition » or « suppression » occurs when LESS THAN FIFTY PER CENT of the damaging weed population is killed by an application of herbicide.

FULL EFFECTIVE CONTROL can only be attained with conventional pest control products, such as 2,4-D and Killlex, which will provide a VERY HIGH PER CENT kill of damaging weeds.

Application Rate of Corn Gluten Meal

Corn Gluten Meal requires EXTREMELY–HIGH–INPUTS OF ACTIVE INGREDIENT since it will otherwise be LESS EFFECTIVE.

The application rate is a WHOPPING 12 to 20 pound per 1000 square feet.

Most Professional Lawn Care Companies will tend to cut the application rate of Corn Gluten Meal, due to cost, and will not get the response they anticipate.

Frequency of Application of Corn Gluten Meal

Corn Gluten Meal will only work for a LIMITED TIME PERIOD of approximately thirty–five to forty–five days.

Consequently, it should be applied three times per year on established Kentucky bluegrass or established perennial ryegrass — spring, mid–summer, and early fall. It cannot be used for SPOT APPLICATIONS, and must be used in a BLANKET APPLICATION PROGRAM.
Weed Species Controlled

Corn Gluten Meal will NOT control the majority of weeds in turf.

The developing roots of the following weeds are known to be adversely affected by Corn Gluten Meal —

- Barnyardgrass
- Clover
- Crabgrass
- Creeping bentgrass (in home lawns)
- Dandelion
- Foxtail

Moreover, Crabgrass is the most common target of Corn Gluten Meal products.

Health Effects of Corn Gluten Meal

Corn Gluten Meal is ALLEGED to be a so-called «lower-risk green alternative to conventional turf herbicides».

This MAY NOT BE TRUE. Corn Gluten Meal may be unexpectedly HIGHER IN TOXICITY.

Contact with Corn Gluten Meal may cause TEMPORARY MILD IRRITATION.

Corn Gluten Meal may cause SENSITIZATION to the skin and eyes.

People with known CORN ALLERGIES should avoid exposure.

By comparison, «Killex Turf Herbicide», which contains 2,4-D, may cause severe irritation to the eyes.
Summary of Reported Health Effects of Corn Gluten Meal

- May cause ALLERGIES for some people
- A few people have SERIOUS ALLERGIC REACTIONS
- May aggravate CORN ALLERGIES
- May cause HYPERSENSITIVITY
- May cause RESPIRATORY PROBLEMS
- May cause TEMPORARY MILD IRRITATION

Precautionary Statements

Here are some adapted examples of PRECAUTIONARY STATEMENTS found on the labels and material safety data sheets produced by manufacturers or distributors of Corn Gluten Meal —

- Avoid contact with skin, eyes, or clothing
- Caution — Eye Irritant
- Potential Sensitizer
- Avoid inhaling/breathing dusts
- May cause sensitization to the skin and eyes
- May cause temporary mild eye irritation

Here is a precaution found on a Corn Gluten Meal label —

For good hygiene practice, wear a long-sleeved shirt, long pants, closed footwear and gloves when handling the product. In addition, it is recommended that a dust mask be worn when transferring the product to the spreader.
Summary of Reported Health Effects by P.A.N.

Pesticide Action Network (P.A.N.) is a U.S. Environmental–Terror–Organization that maintains a so-called «PAN Pesticides Database» for chemicals, which essentially duplicates the federal registration database.

Here is the P.A.N. data on Corn Gluten Meal —

- **Acute Toxicity** — Slight (?!?!)
- **Carcinogen** — Unknown
- **Cholinesterase Inhibitor** — No
- **Developmental or Reproductive Toxin** — Unknown
- **Endocrine Disruptor** — Unknown
- **Ground Water Contaminant** — Unknown

Toxicity and Safety of Corn Gluten Meal

There is an apparent universal scientific oversight regarding the reporting of the toxicity of Corn Gluten Meal.

The level of toxicity of pest control products is measured by LD$_{50}$ (lethal dose 50%). This value represents the dose that is fatal for 50 percent of an experimental group of laboratory animals, in most cases rats. The lower the LD$_{50}$ value, the more toxic the product.

Thus, Corn Gluten Meal may be deemed as a DUBIOUS lower-risk Green Alternative to conventional turf herbicides that contain 2,4-D, like Killex.

Incidentally, Killex has a LOW TOXICITY, with Oral LD$_{50}$ greater than 5000 mg per kg. This LD$_{50}$ value indicates that Killex is safer than household items such as baking soda, caffeine, ethanol, and table salt.
Even the Green Alternatives are being prohibited

Storage of Corn Gluten Meal

Corn Gluten Meal attracts rodents. Furthermore, even with minimal ambient moisture in a typical warehouse, Corn Gluten Meal will turn mouldy.

Corn Gluten Meal presents a major storage problem!

Consequently, once Corn Gluten Meal has been purchased, it must be used within a short space of time. At the end of the season, if you have leftover Corn Gluten Meal, it cannot be stored in an unsupervised and unprotected storage area.

Prohibition of Corn Gluten Meal

Corn Gluten Meal is prohibited in some jurisdictions, like the Province of New Brunswick. Several jurisdictions are already prohibiting other Green Alternatives because they are deemed as dubious lower-risk alternatives to conventional products! Even the Bogus Green Alternatives are now at risk of being the subject of conspiracies that lead to needless, senseless, and malicious prohibition policies!

Conclusion

Corn Gluten Meal is not safer, nor better, nor more effective when compared to conventional pest control products like 2,4-D or Killex.
Force Of Nature 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 document 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 document should be used in accordance with the manufacturer’s directions, and according to provincial, state, or federal laws. 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.

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Force Of Nature 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 Force Of Nature, although his name continues to appear as the founder.

No matter how good a product sounds, test it first