





# 2,4-D Herbicide Is **Scientifically Safe**

# Art C. Drysdale

I-Can-Garden



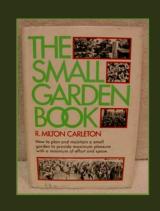


#### Doctor R. Milton Carleton

As one of the « old-boys » involved with the use of 2,4-D for the past 42+ years, for decades I have heard ALL THE ARGUMENTS from activists and Big Brother politicians.

I was a good friend of DOCTOR R. MILTON CARLETON of Chicago, the Vaughan Seed Company's research director from the late 1920s until his retirement in 1967.

and Brooklyn Botanic Garden. In 1959, he published the book « *Your Lawn, How To Make It and Keep It* », as well as « The Small Garden Book » in 1971.





### The Birth and Development of 2,4-D Herbicide

In the early 1940s, DOCTOR R. MILTON CARLETON was the CO-DEVELOPER OF 2,4-D.

2,4-D was being formulated for war-time use, and Doctor Carleton was brought in to work on the « aesthetic » domestic uses.

Here's how it happened, as Doctor Carleton wrote to me in a personal letter in December 1979 -

<< I probably know more about the history and use of this chemical [2,4-D] than anyone alive.

Doctor Franklin D. Jones, who discovered its phytochemical properties, and patented its use as a control for unwanted plants, walked into my office right after World War II.

He said he had a marvellous weed killer for drives.

My answer was « Frank, we have plenty of chemicals that will do that — even old crank-case oil will do the job. What we need is a better control for crabgrass! »

« Unfortunately, it doesn't do too good a job on grasses; in fact they don't die unless you use so much that I suspect it's the carrier that kills, not the 2,4-D. »



This set me to thinking — if it doesn't kill crabgrass, maybe it won't kill bluegrass, which proved to be true when I ran tests.

That was the birth of modern selective weed killers. >>

#### The Ultimate Drink Test Proves 2,4–D Safety

« Milt », as Carleton was affectionately known, usually CARRIED A FLASK AROUND WITH HIM THAT CONTAINED 2,4-D FROM WHICH HE WOULD DRINK ON REQUEST « just to prove it was harmless ».

Anyone who knew the distinctive smell of 2,4-D knew that Carleton was ACTUALLY DRINKING THE REAL STUFF.

It didn't seem to harm him too much — CARLETON LIVED TO THE AGE OF 87, and almost up to the end, drove annually to his summer home off the U.S. East Coast.

Carleton moved to Sarasota, Florida, in 1980.



# Background Information Regarding Safety and Toxicity of Products

#### Measuring the Level of Toxicity

Rather than rely on The Ultimate Drink Test proving that 2,4–D is SAFE, the TRUE LEVEL OF TOXICITY can be measured in the laboratory.

In toxicology, the Median Lethal Dose,  $LD_{50}$  ( abbreviation for the « *Lethal Dose*, 50 per cent » ), is a value that represents the dose that is fatal for 50 per cent of an experimental group of laboratory animals, in most cases rats.

THE HIGHER THE LD<sub>50</sub> VALUE, THE LEAST TOXIC THE PRODUCT.

### **Comparative Examples**

In the next segment, the LEVEL OF TOXICITY was measured as ACUTE ORAL TOXICITY ( $LD_{50}$ , rat) for so-called Green Alternatives, Conventional pest control products that contain 2,4-D, as well as Household Items.

All information concerning Green and Conventional pest control products was obtained from material safety data sheets.

Overall, the measurements indicate that most Green Alternatives and Household Items are NOT SAFER, NOT BETTER, NOT MORE EFFECTIVE when compared to Conventional pest control products.

THE LOWER THE LD<sub>50</sub> VALUE, THE MORE TOXIC THE PRODUCT.

# **Background Information Regarding Safety and Toxicity of Products**

## Relatively Harmless ( $LD_{50}$ 15000 + )

29700 sucrose edible food additive

## **Practically Non-Toxic (LD**<sub>50</sub> **5000-15000)**

11900	ascorbic acid	Vitamin C	edible nutrient
7060	ethyl alcohol	Ethanol	edible beverage constituent
5000 +	fatty acids	Safer's TopGun	green alternative herbicide
5000 +	ferric phosphate	Snail and Slug Bait	green alternative molluscicide
5000 +	FeHEDTA iron	Fiesta	green alternative herbicide
5000 +	potassium salts of fatty acids & pyrethrins	Safer's Trounce	green alternative insecticide
5000 +	2,4–D, mecoprop, dicamba	Killex	

## Slightly Toxic ( $LD_{50}$ 500-5000)

5000	mineral oil	Horticultural Oil	green alternative insecticide
5000	sulphur	Microscopic Sulphur	green alternative fungicide

# **Background Information Regarding Safety and Toxicity of Products**

## Slightly Toxic ( $LD_{50}$ 500–5000) — Continued

4220	sodium bicarbonate	Baking Soda	household product
4000 +	Bacillus thuringiensis	Dipel	green alternative insecticide
3000	sodium chloride	Table Salt	edible food additive
2660	boric acid	Boric Acid	green alternative insecticide
2000 +	Sclerotinia minor	Sarritor	green alternative herbicide
1994	acetaminophen	Tylenol	analgesic
1270	cannabis — males		recreational drug
730	cannabis — females		

# Moderately Toxic ( $LD_{50}$ 50-500)

330	hydrogen peroxide	ZeroTol	green alternative fungicide
200	acetylsalicylic acid	Aspirin	analgesic

## Highly Toxic ( $LD_{50}$ 1-50)

50	nicotine	tobacco constituent
16	strychnine	rodenticide



#### Inaccurate and Untrue Studies Concerning 2,4-D

Is it not interesting that in citing various studies that ostensibly point to various NEGATIVE RESPONSES AND SIDE EFFECTS OF 2,4–D, activists seem not to have listened to any of the WELL-RESEARCHED FINDINGS OF UNBIASED SCIENTISTS SUCH AS BRUCE AMES OF THE UNIVERSITY OF CALIFORNIA.

But they HAVE paid a great deal of attention to two studies that have long since been proven either INACCURATE, UNTRUE, or both.

The two originate from the National Cancer Institute.

The first study involved the Kansas farm workers and an association between 2,4-D and NON-HODGKIN'S LYMPHOMA.

In this case it was the author herself who ISSUED THE CORRECTION THAT WITHDREW THE DIRECT LINK.

National Cancer Institute's second study was a DOG-CANCER STUDY.

Researchers at Michigan State University discovered that the raw data in the DOG-CANCER STUDY DID NOT SUPPORT THE AUTHOR'S CONCLUSIONS.

That was followed by the author's own REFUSAL TO DEFEND HIS STUDY, and his request that it be WITHDRAWN FROM THE SCIENTIFIC LITERATURE.

It also prompted his RESIGNATION from the university!



#### **Professor Bruce Ames**

I have followed PROFESSOR BRUCE AMES' work at the University of California for a couple of decades.

He actually developed the test for carcinogenicity — reporting it in 1975.

Then, in 1987, Bruce delivered another blow.

He and two colleagues at Berkeley published a SYSTEMATIC RANKING OF THE RELATIVE DANGERS OF CARCINOGENS to which people are commonlyexposed.

Suddenly some environmental controversies looked a little silly.

According to Professor Bruce Ames in 1989 —

<< It is important not to divert society's attention from the few really serious hazards, such as tobacco or saturated fat (for heart disease), by the pursuit of hundreds of minor or non-existent hazards. >>

For Professor Bruce Ames, it no longer made sense to fret about one molecule of a carcinogen.



### Professor Bruce Ames (continued)

Although Professor Ames acknowledges that some synthetic substances are dangerous, he now believes that MAN-MADE POLLUTANTS ARE GENER-ALLY INSIGNIFICANT RISKS TO THE PUBLIC.

Professor Ames bases this not merely on his own results, but on statistics showing that THE PROLIFERATION OF SYNTHETIC CHEMICALS IN THE PAST 30 TO 40 YEARS HAS NOT MARKEDLY INCREASED THE OVERALL U.S. CANCER RATE.

One of Professor Bruce's more recent statements that I noted had to do with the fact that AN AVERAGE AMERICAN CITIZEN DIGESTS MORE NATURAL CHEMICALS IN A WEEK OF A DIET OF VEGGIES THAN IN A LIFE-TIME OF EX-POSURE TO PESTICIDES.

Needless to say Professor Bruce Ames has his detractors, but in view of the fact HE TAKES NO MONEY FROM THE CHEMICAL INDUSTRY, and his thoughts are a 180 degree turn-around over the decades of his work, surely everybody should have examined his work in detail.

The Green Space Industry itself must be criticized for not being prepared for ridiculous ideas such as the ban on « cosmetic chemicals ».

There are a number of steps that could have been taken months — years ago, including particularly, exposing Canadians to Professor Bruce Ames' work.



BACKGROUND INFORMATION — Professor Bruce Nathan Ames is an American biochemist. He is a Professor of Bio-

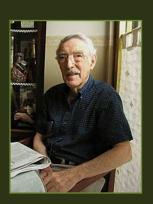
tem for easily and cheaply testing the mutagenicity of com-

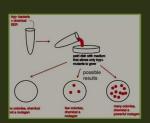
Professor Ames was elected a Fellow of the American Acad-

the Thomas Hunt Morgan Medal in 2004, among many oth-

few hundred most-cited scientists in all fields.

terested in mutagens as they relate to cancer prevention and aging.







The nation's best-known celebrity horticulturist, plant expert, writer, speaker, radio and television broadcaster

# Art C. Drysdale http://www.artdrysdale.com

Drysdale is one of Canada's best-known horticulturists. For the past four decades he has been writing, and presenting radio and television broadcasts, with practical garden hints on stations such as CFRB, AM740 and CFCA. He also presented all of Canada's Weather Network gardening vignettes, hourly from April to October annually for a decade; as well as being the spokesman for The Garden Claw across the country. A life-long resident of Toronto and a horticulturist well-known all across Canada, Drysdale is now a resident of Parksville, British Columbia on Vancouver Island, just north of Nanaimo. He has renovated an old home and has a new garden there. His radio gardening vignettes are heard in south-western Ontario over two radio stations: Easy 101 FM out of Tillsonburg at 2 PM weekdays, and CD98.9 FM out of Norfolk County at 11:40 AM weekdays.

As a speaker, Drysdale has addressed amateur and professional groups all across Canada, as well as in the U.S., England, Holland, Switzerland, Australia, South Africa, and aboard cruise ships. Drysdale graduated from East York Collegiate in 1957, with the Ontario Secondary School Honour Graduation Diploma. He was active and held several executive positions in the East York Garden Club, 1955–69. He attended The Niagara Parks Commission School of Gardening (now NPC Botanical Garden and School of Horticulture), 1958–61, where he won all five awards presented at the graduation. He initiated/edited the school's first year-book.

From graduation in March 1961 until August 1962, Drysdale worked with the Shur-Gain Division of Canada Packers where he developed new consumer fertilizer products (Feed 'n Weedaway, for example), wrote various consumer literature, and consulted with consumers and the turf industry. He was then employed with Sheridan Nurseries Limited, 1962–69, Drysdale was Chief Horticulturist and Advertising Manager, with full responsibility for their catalogues and botanical nomenclature. In December 1963, Drysdale began writing a feature column for a new magazine, Canadian Nurseryman, and continued to do so until March 1969. He was also a member of the founding committee. In 1964, he was appointed part-time Executive Director and Editor with the Canadian Parks/Recreation Association (CP/RA), with the office in his home. In 1969–70, he was employed full-time as CP/RA Executive Director, and Editor of Recreation Canada. He set up CP/RA's first permanent office in Ottawa in early 1971. From 1971–1978, he free-lanced as a horticultural writer and published/edited Recreation Canada. In 1973, he was appointed Regional Director (Canada) of the Garden Writers Association of America (GWAA). During 1979–81 period he served as President of the Garden Writers Association, the first-ever Canadian to hold the office representing over 1,000 members, mostly in the U.S.A.

In March 1975, Dent Canada published his book Gardening Off The Ground that he wrote on the invitation of the publisher. It was the first Canadian book for balcony gardeners. In July 1996, he self-published a completely revised and enlarged version, including his own colour photos.

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Force Of Nature presents THE WHOLE TRUTH FROM AN INDEPENDENT PERSPECTIVE from National Organization Responding Against HUJE that seek to harm 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. The information presented in Force Of Nature has been developed for the education and entertainment of the reader by providing a sequence of historical events WITH COMMEN-TARY. The neutrality of these Reports might be disputed. This is what we do. Don't thank us. It's a public service. And we are glad to do it.

HUJE are identified on the basis of their statements, activities, affiliations, and whereabouts. Even though each Enviro Lunatic Culprit is a misguided adversary, each still deserves our respect. The use of the terms Lunatic, Maniac, Culprit, Terrorist, or Basterd are not accusations of any legal wrong doing. Force Of Nature is simply holding Enviro Lunatic Activists accountable for conspiring to change public policies that TERROR-IZE, HARM, and THREATEN the Green Space Industry.

HUJE is a term used to describe Enviro Lunatic Activists that routinely concoct FEAR MONGERING, FRAUDULENT LIES, MISCONCEPTIONS, CO-ERCION, THREATS, DECEPTIONS, TERROR, and PARANOID CONSPIRACIES that are DESIGNED to SCAM and DECEIVE the public into believing there is some IMAGINARY DANGER with conventional pest control products. HUJE also SCAM and DECEIVE Government Officials into the NEEDLESS, SENSELESS, and MALICIOUS CONSPIRACY to PROHIBIT conventional pest control products that are HEALTH CANADA APPROVED, FEDERALLY LEGAL, SCIENTIFICALLY SAFE, TOTALLY IRREPLACEABLE, and ABSOLUTELY INDISPENSABLE.

HUJE have created LOSS OF REVENUES, BUSINESS FAILURES, BANKRUPTCY, and UNEMPLOYMENT, inflicting DESPAIR and DESTITUTION for THOUSANDS of hapless victims throughout the Green Space Industry. The DEPRAVED INDIFFERENCE of Lunatic Culprit Terrorist Basterd HUJE is viewed as a form of TERROR, HARM, and THREAT against the Green Space Industry.

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Force Of Nature, and its various incarnations, is the brainchild of William H. Gathercole and his colleagues. 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 CHEMICAL INDUSTRY, and has served in environmental compliance, government negotiations, public affairs, and workplace safety. Mr. Gathercole has supervised, consulted, programmed, and/or overseen the successful and safe execution of HUNDREDS OF THOUSANDS of pest control applications in the urban landscape. He has trained, instructed, and consulted with THOUSANDS of turf managers and technicians. Mr. Gathercole has also been an agricultural agronomist. For many years, Mr. Gathercole was a contributing columnist for TURF & Recreation Magazine, Canada's Turf and Grounds Maintenance Authority.

Mr. Gathercole and his colleagues have followed the evolution of LUNATIC ENVIRONMENTAL TERRORISM for over a quarter century. For FIF-TEEN YEARS, the strategies designed and implemented by Mr. Gathercole and his colleagues guaranteed the control of the VERMIN OF ENVI-RONMENTAL TERROR for the entire Modern Green Space Industry across Canada. Their involvement in Environmental Issues reached a fevered pitch in the 1990s, when he orchestrated, with his colleagues, legal action against the Forces of Environmental Evil in the Town of Hudson, Quebec.

Today, Mr. Gathercole is the ONLY TRUE RELIABLE WITNESS of the Hudson Affair. Mr. Gathercole is personally credited for crafting the Golf Industry Exception Status that endures to this day. He is also the creator of the signs that are now used for posting after application. He and his colleagues are recognized as THE MAJOR INFLUENCE for the decision by Canadian Cancer Society to STOP selling for profit PESTICIDE— TREATED DAFFODILS. Mr. Gathercole's vast knowledge of our long journey with Environmental Issues is UNDENIABLE — hopefully! Mr. Gathercole is now retired, although his name continues to appear as FOUNDER of Force Of Nature.

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