Book Excerpt: Here's The History of Clover's Demise as a Lawn Plant

Posted by: **Paul Tukey** Posted date: **March 17, 2011** In: **Pesticide Toxicity** | comment : **4 Comments**

The pink nodules store nitrogen on the roots of clover.

In honor of St. Patrick's Day, I always like to espouse the virtues of clover, once considered the greatest lawn plant of all because it's low-growing, evergreen, drought tolerant and manufactures its own fertilizer by storing atmospheric nitrogen on its roots (see photo). I also highly recommend watching this video, which features my friend and colleague, Roger Swain, offering an historical essay about clover: http://www.safelawns.org/video.cfm (click on clover).

I also offer up an excerpt of an as yet untitled book by yours truly, which will be published soon, about the history of lawn chemicals in North America:

IN THE AGE OF MODERN commerce, almost everyone understands the desire to turn a profit. In the world of horticulture, however, I have found another motivation to be most often predominant. From the rose breeder who tries for years to cross-pollinate the perfect pink bloom, to the pumpkin grower who is aiming to nurture a 1,500-pound behemoth for first prize at the county fair, nearly every gardener, professional or amateur, desires most of all to be first. The bragging rights, ultimately, are worth more than any amount of cash.

So it was with Dr. Reginald Milton Carleton, the head researcher for the Vaughn Seed Company of Chicago. Author of numerous horticultural books and enormously respected by his peers, Carelton was often quoted espousing one breakthrough or another in vegetables and flowers. Though he was never considered a weathly man, he apparently went to his grave at age 87 believing he had been personally responsible for one of the greatest gardening discoveries of all — and the product that would be at the epicenter of a Canadian firestorm in the generations to come.

Art Drysdale knew Carleton well, easily recalling a decades-old encounter with his friend and mentor as if it happened yesterday. Then an aspiring author and entertainer, Drysdale was the young Canadian buck with a booming voice and bigger personality, yet he was content to play wallflower in the presence of two titans of his industry. His companions for the early March evening of 1962 were John Bradshaw of Toronto, host of Canada's most popular gardening radio show, and "Milt" Carleton, a most coveted local dinner guest during the annual Chicago Flower Show at McCormick Place.

Carleton was a proud member of the prestigious gentleman's club known as The Cliff Dwellers, which still operates today from atop the office building at the southwest corner of Michigan Avenue at Adams Street on Chicago's Magnificent Mile. In those days, The Cliff Dwellers was still perched above Symphony Center and provided a fashionable venue for an annual debate about the origins of fine wine.

"We get there first, appropriately dressed, and in strolls Milt in his three-piece suit," recalled Drysdale during our conversation in 2008. "Right away the two of them begin their customary argument. For Bradshaw, the wine had to be French to be considered any good; Milt was a promoter of the wine from California. So Milt, of course, tells the waiter to bring both bottles to the table. 'We'll see if you can really tell the difference,' he says to Bradshaw.

"When the wine bottles arrive Milt challenges him to a taste test. 'But before I have any wine,' he says, 'I need to have my 2,4-D.' And out comes a little flask from his inside suit pockets. He takes a big swig of it. You could tell right away it was 2,4-D because of the smell. He pronounces, proudly, 'I do that every day! I'm not afraid of the stuff!'"

By then, it had already been 15 years since Carleton had introduced a synthetic chemical plant-growth regulator known as 2,4-Dichlorophenoxyacetic acid to the American gardening public. Developed during World War II at Rothamsted Experimental Station in Hertfordshire, England, the product was originally brought to the world's agricultural market to kill weeds in crops that belong to the grass family including wheat, corn and rice. By allowing the good plants to live, yet causing the undesirable plants to die overnight, 2,4-D instantly spawned one of the greatest perceived advances in farming technology in a generation.

That almost paled by comparison, though, to revolution that 2,4-D would bring to the North American back yard. Milt Carleton immediately saw its potential, as detailed in a personal letter to Art Drysdale in December of 1979:

"I probably know more about the history and use of this chemical than anyone alive. Dr. Franklin D. Jones, who discovered its phytochemical properties and patented its use as a control for unwanted plants, walked into my office right after WWII. He said he had a marvelous weed killer for driveways! 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,' he replied, 'it doesn't do too good a job on grasses.' 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."

By bringing 2,4-D to the lawn industry, Carleton had simultaneously instigated a gold rush and a controversy that is still raging six decades later. He was immediately a hero to his employers, the descendents of John Charles Vaughn, who had suddenly become manufacturers of one of the hottest commodities ever to hit suburbia. The Vaughn family's largest wholesale customers soon became the heirs of O.M. Scott, a hardware store owner who had been professing a "white-hot hatred" of weeds since the 1860s. The Scotts Company had long since carved a market niche by selling the Ivory Soap standard of grass seed: 99.8 percent pure and free of weeds. This new weed killer, however, had the clever marketers working overtime by the end of the war.

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In 1948, advertisements for Scotts' new product, "Killex," began appearing in *Better Homes & Gardens*, *Ladies Home Journal*, *Horticulture* and other magazines of the day. Comely barehanded homemakers were depicted sprinkling Killex onto their lawns to remove dandelions, plantain, chickweed and 50 or so other so-called weeds. Soon after, an even more popular amalgamation emerged. When the first bag of Scotts Weed 'n Feed rolled off the conveyor belts at the Scotts headquarters in the central Ohio town of Marysville, it changed the very nature of lawn care. Instead of applying fertilizer in one pass and weed killer in another, homeowners and gardeners could now put down weed 'n feed to do both jobs at once — usually across the entire lawn — thereby creating an explosion for the demand for Milt Carleton's new miracle acid.

The fact that 2,4-D smelled acutely toxic, ironically, was not the first big dilemma facing the product. Early activists rallied because Killex and Scotts Weed 'n Feed eradicated the clover that theretofore had been North America's favorite lawn plant. Since it was evergreen, drought-tolerant, low-growing and capable of manufacturing its own fertilizer by attaching nitrogen from the atmosphere to its roots, clover had been a part of virtually all seed mixes ever since Americans began consciously cultivating lawns. No matter how hard Carleton and others tried, though, they couldn't come up with a formulation of 2,4-D that allowed the clover and grass to live in harmony. The issue was acknowledged in Carleton's 1957 book titled *A New Way to Kill Weeds*:

"The thought of white Dutch clover as a lawn weed will come as a distinct shock to old-time gardeners. I can remember the day when lawn mixtures were judged for quality by the percentage of clover seed they contained. The higher this figure, the better the mixture. . . I can remember the loving care which old-time gardeners gave their clover lawns. The smug look on the face of the proud homeowner whose stand was the best in the neighborhood was really something to behold."

The clover quandary was deftly handled by the same marketers who had, seemingly overnight, made the phrase "weed 'n feed" part of American vernacular. In this case, clover was re-branded as a weed by use of the oldest promotional ploy in the book: manufacturing fear. Clover, you see, attracts bees by the thousands when the flowers bloom in mid summer. Bees, claimed the deft advertisements, sting children. Young mothers took note and, within a generation, clover was gone from most seed mixes. Soon, the three- and four-leafed plants, just like the bees, were disappearing from lawns.

As for those pesky and persistent claims that exposure to 2,4-D also carried other side effects — among them diarrhea, blurred vision, respiratory irritation, confusion, numbness and tingling, bleeding from the nose and chemical hypersensitivity — they were quickly cast aside by a hearty gulp in clear public view. The man who had effectively launched the weed 'n feed industry utterly scoffed at the notion that his product was harmful to human or environmental health.

"It's safe enough to drink," said Milt Carleton, time after time and day after day. Like the proudly defiant cigarette smoker who lives a long life despite a pack-a-day habit, he was a poster boy for the weed killer that remains vastly popular. The Environmental Protection Agency estimates more 16 million pounds of 2,4-D are applied to home lawns, parks and golf courses annually; the product's use continues to increase each year everywhere in North America, except Canada.

"It was a religion to Milt," chimed his friend Drysdale. "I don't think Milt ever made any real money from 2, 4-D, but it was still his baby and he defended it to his death. Well into old age he would drive himself every summer from Chicago to Maine, and then later on to Florida. The stuff didn't seem to hurt him a bit."

Before we ended our conversation, I did have to ask Art Drysdale one further question: Had he ever taken a drink of 2,4-D himself?

"No," he said, "I can't say as I have."

NOTE: Art Drysdale is still a devout critic of the organic lawn revolution and a proponent of chemical weed killers such as 2,4-D.

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An international leader of the green movement, Mr. Tukey is a journalist, author, filmmaker, TV host, activist and award-winning public speaker, who is widely recognized as North America's leading advocate for landscape sustainability and toxic pesticide reduction strategies.

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Tony D · 2 years ago

I read about the demise of clover in lawns years ago and, only today, came searching for more about the issue as I prepare to change the way I tend my own yard. All spring and (early) summer, I have been pulling handfuls of clover out of my lawn as I wander about performing other tasks.

NO MORE !!

The clover stays. Despite proper watering, application of (ick!) chemical weed 'n feeds, and hand-weeding, the only continuously green portion of my lawn is that in which the beautiful clover reigns.

LONG LIVE THE CLOVER!

Tony

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SafeLawns · 2 years ago

Paul,
Norman R. is right. Art Drysdale has gone off on the deep end with William Gaithercole, who is nothing less than a certifiable lunatic. They both go out of his way to bad-mouth you every chance they get. In fact, the first time I heard about your important work was last year in one of their ridiculous emails that are inescapable. If I were you, I wouldn't give Art Drysdale the appearance of credibility by including him in your book — which sounds excellent, by the way.
Linda, F. Your ally in BC, the next province to adopt a pesticide bylaw

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SafeLawns · 2 years ago

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Susan Welch

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SafeLawns · 2 years ago

Can't wait to read the whole book. Keep us posted.
Norman R.

PS: It's too bad what happened to Art Drysdale. He used to be a highly respected gardening communicator, but he has clearly lost a couple of his marbles. His advice is nothing but irrational rants now, for the most part. Very sad.

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