

Manicured lawns: worthy of praise ...or criticism?

In light of the distinct possibility that global warming is occurring, ground water is being overdrawn, and species are being eradicated at a feverish pace, many of us are attempting to lighten our burden on the Earth and make our communities healthier. One of the ways these goals might be accomplished can be found in our lawns. Like many other aspects of our lives that have been shown to be dangerous under careful inspection, such as, smoking and driving, well-groomed, weedless lawns have many drawbacks that also deem them harmful. This essay will discuss these cons in some detail in an attempt to get us to consider how to become more environmental healthy and friendly. But, first, why do we have lawns anyways?

There are a multitude of reasons why the American landscape is strewn with lawns. From a historical point of view, British grazing of grasses stimulated the introduction of European plants—such as bluegrass and white clover—to the continent shortly after the colonization of the New World (1).

Perhaps the grandest demonstration of the early affection for well-groomed grassy areas comes in the form of The Lawn on the campus of Thomas Jefferson's University of Virginia (my alma mater founded in 1825) which consists of a well-coiffed, multi-tiered lawn surrounded by the dormitories and classrooms at the center of campus. However, despite this early infatuation, the mowed lawn apparently became a norm for residential living sometime later with the rise of suburbia in the mid-1800's.

The growth of lawns in the America psyche actually has significant roots in Illinois. Frederick Law Olmsted, most famous for creating public parks in New York and Boston, also was "the first to lay out a genuine American suburban landscape in his 1868 plan for the community of Riverside, Illinois" (2), located due west of downtown Chicago. Olmsted recommendation that homes be "set back" at least thirty feet from sidewalks opened the way for similar developments throughout the country. Not surprisingly the first American lawn mower was patented just a year after Holmstead's plan was offered (2). Due to limitations of time and money, a well-manicured lawn took some time to become commonplace. Early lawns required immense amounts of labor—so only the well-to-do had free time to dedicate to lawns or the money to pay someone else to. It wasn't until the mid-twentieth century that "experiments with imported grasses and grass hybridization, improvements in lawn-mower design, irrigation devices, and the introduction of effective fertilizers, herbicides, and pesticides made it possible for most people to grow lawns in most parts of the United States" (2). And with the help and encouragement of three national organizations—the U.S. Department of Agriculture (USDA), the U.S. Golf Association (USGA), and the Garden Club of America (GCA)—and a multi-faceted advertising scheme from the lawn-care industry, lawns became popularized and equated with the "good" life (2). (The skill and artifice exhibited by these organizations to convince the masses to adopt weedless lawns as a cultural imperative is an extremely revealing story, but one requiring more space than is available here.) The vice president of Scotts Co., the country's largest lawn product

marketer, expresses our collective sentiment toward our lawns well, "Americans have a very particular love affair with their lawn. . . . They believe the way their lawn looks tells their neighbors a lot about what kind of person they are" (3). Further, lawns have



become so popular that they, unbelievably, are the nation's #1 "crop"—with about 30 million acres under cultivation (4).

However we arrived at our current relationship with lawns, they serve beneficial functions beyond just demonstrating to passersby that one has "made it." Many people seem to prefer the aesthetic of lawns over woods, prairies, or vegetable gardens. Lawns serve as safe havens for innumerable recreational activities (though rarely do I see people using them in this capacity). Lawns, depending on the grass type and moisture characteristics, can also serve as a firebreak (1). Lawns also make it very difficult for certain "unwelcome" critters (such as snakes, raccoons, possums, or bees) to find adequate shelter or food, so, consequently, they move elsewhere and have reduced populations.

These benefits notwithstanding, a look at the many drawbacks of lawns suggests a restructuring of our relationship to them. There are many key arguments that question the ways in which we currently engage with the landscapes that surround us. In our creation of "immaculate" lawns, we not only poison ourselves and other life forms, we also pollute ground water, as well as lakes and streams, diminish biodiversity, grossly misspend money, create unnecessary noise, and reinforce unsustainable practices and connections with the natural world. While this isn't a complete list of the problems with lawns, it should be more than enough to challenge current practices.

Many people function with the understanding that in order to have a lawn, they must use chemicals. Purportedly, fertilizers are needed to get grass to grow and pesticides are necessary to keep weeds at bay. While it is true that fertilizers can

provide additional nutrients to grasses, they also can provide excess nutrients for lakes (where they often runoff to once applied) and thereby set off an ecologically debilitating process referred to as eutrophication which can kill scores of aquatic life forms. These problems can be largely avoided if consumers used grass clippings as mulch, replenishing the soil with required nutrients. Further, the use of mulch would greatly lengthen the lifespan of our landfills. Amazingly, yard waste makes up between 20-50% of the nation's landfills (2). Even more astonishingly, Americans use of chemical fertilizer on their lawns in the 1980's was greater than the nation of India's use to grow food for its entire population, which then was rapidly approaching one billion (4).

Pesticides do kill weeds and crawling and airborne pests but at the same time they get into the biosphere where they can have very problematic effects. The chemicals that folks use to "control" weeds and pests generally come in form of petrochemicals (i.e., oil-based compounds) that are not found

naturally in the terrestrial environment. Thus, at the same time they are attacking animals and plants by interrupting their internal chemistries, these chemicals are also moving up the food chain where they become concentrated in the larger creatures—such as cows, chickens, eagles, you name it. These animals did not evolve on an Earth with these foreign chemicals and so it isn't surprising that these toxins often do irreparable harm to these organisms and anything that might eat them, including humans. But don't think that humans (or their pets) need to eat these chemicals to absorb them. This can be accomplished either through the skin or lungs as well.

Our use of pesticides is even more questionable (perhaps absurd) when one considers the following issues. First, so few of the species that pesticides kill are really pests. In fact, it appears that more than 99% of all plants, animals, and microbes in the U.S. "carry out an array of essential functions such as decomposing organic wastes, degrading pollutants, recycling nutrients, moderating the structure of the soil, preserving biological diversity, and serving as vital parts of the food chains (2)." Second, because these chemicals appear so inexpensive, the resulting haphazard application of them means that less than 5% of the chemicals used actually meet (i.e., make contact with) their intended pest, meaning that at least 95% of the chemicals are technically "wasted." Third, we are applying incredible amounts of these chemicals on our lawns; the lawn care

industry itself applies 50,000,000 pounds of them each year and this ridiculous number doesn't even include the poundage applied by homeowners directly (5), some 60% more according to various estimates (6). Finally, and most shockingly, of the thousands of chemicals currently in use, only ~2% have been tested for carcinogenicity (i.e., their cancer-causing effects) (7), and likely fewer have been analyzed for teratogenic (i.e., birth defects), endocrinologic (i.e., immune disruption), or neurological effects. In fact, "none of these long-term adverse health effects are required by law to be listed on product labels" (6). (In fact, because the composition of many commercial available chemicals is protected by federal law as "trade secrets," many "inert ingredients" aren't even listed on the containers; hence, we don't even know what are in these concoctions. Given this situation it has been aptly stated by some that chemicals (and the corporations that produce them) have more rights than citizens.) Worse yet, if it is possible, scientific studies rarely consider synergistic effects (multiplicative effects of exposure to a soup of different chemicals) or effects on children, the most likely victims of these poisons. (I outline the specific health effects of a few of the most commonly used lawn pesticides as well as several of the myths associated with pesticides in general in my April 24, 2003 Zephyr essay.)

Hand-powered lawn mowers are practically a device of the past. More and more homeowners are choosing to use gas guzzling machines to mow, and increasingly ones that provide the driver a place to sit, eliminating the little exercise that once was provided by mowing. Unfortunately, many of these machines have very poor emissions standards which means they release a lot more liquid and gaseous pollutants per mile driven than do automobiles or even motorcycles; actually one hour of mowing with a typical gas-powered machine produces the same gaseous emissions as driving a car 350 miles (4). Since pollution characteristics apparently aren't as important as versatility and power, as most advertising displays will vouch for, "dirty" mowers look like they are here to stay. Electric mowers may reduce emissions locally, but somewhere coal, the dirtiest of the fossil fuels, is likely burning to provide the electricity that makes these machines run. The polluting of our waterways and air parcels from the use of these machines only compounds the effects of other emissions.

While polluted lakes and streams combined with birth defects and childhood cancers would seem to be sufficient reason to reconfigure our relationship with our yards, when one looks at the effects on our pocketbooks our present behavior also seems terribly selfish and wasteful. While amounts differ somewhat depending on the source, it is clear that, collectively, we spend inordinate sums of money to make our lawns immaculate. Homeowners that rely at least partly on the assistance provided by the lawn service industry spend, on average, more than \$500 a year on their lawns, while "do-it-yourselfers" average about a fourth of this amount. Collectively, this adds up to over \$14 billion a year spent by Americans each year (3)! In the late 1980's, Americans were spending over \$700,000,000 on pesticides for use on

This covers on top



Quiet Riot's sudden split in 2003 came as a surprise, especially given the excellence of their last two albums 1999's 'Alive And Well' and 2001's 'Guilty Pleasures'. Both records equalled the heyday of 1983's 'Metal Health' and 1984's 'Condition Critical' musically, if not in sales and suggested there was still life in the band. Apparently this was not the case and the band called it quits amicably, matters having run their course. Since the split drummer Frankie Banali has been working on various projects, while bassist Rudy Sarzo recently hooked up with Dio, becoming his 653rd bass player. Vocalist Kevin DuBrow has succeeded in becoming the first member to release new music however, with his first solo album, a covers affair titled 'In For The Kill'.

Cover albums from my experience are usually dreadful and unoriginal, with few exceptions. It's impossible to capture the essence of an original song and after one spin these albums find their way into a dusty cupboard. The last two victims were Ritchie Blackmore and Jimi Hendrix cover albums from Sweden's Lion Records, both bland and throwaway, managing a single spin on my cd player. When I was sent an e-mail containing a press release for DuBrow's upcoming covers attempt, my interest was heightened more than usual, simply because of the tracklisting. DuBrow has selected tracks that influenced him as a youngster, all of them from the early to mid seventies, and with the exception of Montrose and The Easybeats, all of them British acts. Featured are classic bands like Deep Purple, Queen, Nazareth, Sweet, the Faces and Humble Pie with the odd rarity thrown in from the likes of Quatermass and Silverhead. That's a credible lineup by any true rocker's standards.

Realising that cover albums are rightfully treated with wariness from the public, DuBrow states in his press release that he understands their 'apprehension' as he is suspicious of cover albums himself. DuBrow states 'I think this CD has its own unique sound, personality, and still kicks ass. I feel we stayed true to the original songs, while at the same time did our best to make them our own. This is not a 'Karaoke' Kevin album!' The man for once happens to be correct. With band members including ex Great White keyboardist Michael Lardie and ex Racer X vocalist/drummer (here on drums) Jeff Martin, DuBrow does make the songs his own because he contains such a readily identifiable vocal style. Things kick off with Sweet's 'Burn On The Flame' which was a B-side to 'Fox On The Run' in 1975. This was typical Sweet, obscuring their heavier songs behind the lightweight glam rock that made them so popular in the early 70's as b-sides which went unnoticed. In DuBrow's hands it turns very Quiet Riot like, with his new band sounding very like his ex-band mates. Up next is Montrose's 'Good Rocking Tonight', which is one of the landmark tracks in US hard rock history, and is unlikely to be bettered in any form. Here DuBrow sticks faithfully to the original with all the vitality and freshness that characterised the original. The man's natural enthusiasm shines through on every cover.

Quatermass' 'Black Sheep Of The Family' is an unlikely choice, the song made more well known by Rainbow some years after the original. DuBrow maintains the Hammond organ based sound that was so huge in the

1970 period, a fine effort. Like Montrose, trying to emulate early Deep Purple is almost pointless, but again DuBrow and co deliver with a fiery rendition of 'Speed King', but invariably all it does is make me want to hear the original, still a monster thirty four years later. 'Stay With Me' is the most obvious Faces track to attempt and that's what DuBrow does, giving it a perfunctory run through, perhaps realising it's impossible to capture the crude charm of Rod Stewart and his wasted cohorts. DuBrow's favourite artist is Steve Marriott, as he points out so often, so it was inevitable Humble Pie would be featured, here in the shape of 'Red Light Mama, Red Hot', from Pie's 1970 debut. Given an updated twist it's very contemporary, great raunch and handled exceptionally by Kevin. 60's Aussie rock greats The Easybeats are another unexpected choice, their hit 'Gonna Have A Good Time' given a run through, although not as memorably as the version by Jimmy Barnes and INXS in the mid 80's.

Queen's 'Modern Time Rock And Roll' burns things up at speed, demonstrating how heavy early Queen could sometimes be, DuBrow retaining the force, if not more. Things fall away slightly with the disinteresting trio of Mott The Hoople's 'Drivin' Mama', T Rex's '20th Century Boy' and Nazareth's 'Razmanaz', but that's because I've never been into any of those bands to much degree, sorry Kevin. The final selection is more inspired, a cover of Silverhead's 'Rolling With My Baby'. Silverhead were another early 70's British band, who recorded two albums in 1972 and 73 before splitting, the band a cult classic of the glam movement. This is heavyweight boogie on a Slade level and the band fronted by the legend that is Michael Des Barres, should have been bigger according to most observers. DuBrow pulls out everything at his disposal and this is the finest moment of the album for me, certainly an inspiration to seek out the original! A huge thumbs up for covering this.

This is the best covers album I've heard, and one I could recommend easily to fans of the genre DuBrow has opted to perform. Let's face it, it's only going to interest hardcore Kevin DuBrow and Quiet Riot fans and maybe those with a liking for classic 70's rock, but in that regard DuBrow had exceeded himself in adhering to a track selection that takes an often unexpected direction. Vocally the man has been underrated his whole career, but DuBrow gives one of his best efforts to date, ably supported by a fine backing band. 'In For the Kill' might not sell large amounts and might go unrecognised, but if you want credibility, Kevin DuBrow has yards of it. The next thing is to catch him live, where he should push the envelope even further.

clover absorbs atmospheric nitrogen and thereby provides this vital nutrient upon decomposition (4). Some cities in Canada have passed bylaws banning pesticide use. Perhaps we should take another lesson from the Canadians after all. Second, as noted earlier, using clippings as fertilizers greatly reduces the need for artificial fertilizers and new landfills. Third, one thing that all the research on lawns has provided us with is a long list of grass species that are well-suited for specific climates. Any good nursery should be able to tell you which ones will work in your yard. Converting you lawn to these species will mean no additional watering will be necessary. Fourth, unless you are going to use your lawn for recreational purposes, why not convert your current lawn into a wonderful prairie or a vegetable garden. Perhaps city laws may prohibit grass above a certain height but with a little creativity a diverse flower garden should keep the authorities from prosecuting. And even if the authorities do come, there is a precedent for people successfully challenging lawn ordinances nationwide. Many judges have decided that natural yards are not the menaces to society that city codes seem to assert (2). As it turns out,

"letting grass grow taller . . . make the lawn more resistant to heat and drought, disease and weeds" (2). Fifth, by planting native plants, one is not only providing diverse habitat for other native species, one is also promoting ecological awareness at many levels. For information on plants that are native to your locality contact The North American Native Plant Society, website: <www.nanps.org>. Lastly, to reduce the emissions of your gas-powered lawn mower, convert to a "muscle" mower, or if the thought of too much exercise is inhibiting at least be sure to get the motorized one tuned regularly.

Instead of promoting an industrially-based lawn, consider the above alternatives. In the end, while it is difficult to take on all of these suggestions at once, take pride in starting somewhere and building a healthier and happier relationship with the outdoors. One person can make a difference.

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their lawns alone (1); additional expenses come from mowing, equipment, and labor. This is a substantial sum when one considers that only \$19 billion would feed the remaining hungry people on the planet with nutritious food and \$10 billion would provide clean drinking water to the more than 2,000,000,000 people that lack it (8). It seems that a green lawn must be had at almost any cost.

Many people water their lawns with purified and chlorinated H₂O—that is the water for which we build water treatment plants. While we don't have water shortages often in IL, isn't it still irresponsible to misuse what resources we do have for this purpose? Every ground water supply is finite. Lawns are preferable to roads, driveways and sidewalks in that they do absorb rainwater and allow for replenishment of precious groundwater. Yet, industrial lawns also allow poisonous chemicals to leach into the groundwater as well as other waterways. We also waste so much water on lawns. Consider that in Dallas, Texas, the water used for lawns consumes ~60% of all municipal demands during the summer (2). The lush golf courses in Palm Springs, California (which receives less than 6 inches of precipitation a year, compared to Galesburg's nearly 37 inches) are also testament to the extreme arrogance and wastefulness among us. Perhaps a signal of what is yet to come to other parts of the country, the Southern Nevada Water Authority, motivated by increasing costs of water resources, recently started offering homeowners \$40 for every 100 sq. feet they convert from lawn to "less water-dependent indigenous flora" (6). In only its first three years, over 3,000,000 sq. feet of lawn was converted. Other states are beginning to follow similar directions.

Mowers are noisy but since noise pollution is still ranked quite low in terms of prohibition or enforceability we put up with it. A hand mower (and some electric models) could alleviate this problem but too many of us don't care if our neighbors must listen to our racket. Come on, our lawns must be cut in the most convenient form possible, right? Lastly, modern lawns greatly reduce biodiversity. Now why this might not matter to many of us, it certainly matters in terms of the resilience and health of the ecosystem. History has shown that monoculture crops are more susceptible to blight. Similarly, systematically (albeit haphazardly) removing "critters" from one's lawn incrementally leads to a less vibrant and stable system. Butterflies and bees are extremely important pollinators—without them reproduction comes to a halt for many plants. Earthworms create soils that have good permeability, porosity, and sufficient levels of lime and phosphate (9). Many other organisms are necessary if we want our neighborhoods to be ecologically vital. Unfortunately, ecology (the field of science that demonstrates this point most vividly) hasn't yet become a key component of our educational system; perhaps when it does the citizenry will appreciate the "pests" more.

When analyzed on the basis of their ecological pros and cons, lawns appear to fail miserably. Assuming we can agree on this, what are some alternatives to a weed-free, well-manicured lawn? Actually, there are many. First, and perhaps most importantly, there isn't need for the use of toxic chemicals. Many natural pesticides are available and much less dangerous to the ecosystem. For instance, a mixture of lemon juice and vinegar can be used in place of RoundUp (6). Also, diluted Grape Kool-Aid can be used as an effective insect repellent (5). Grubs can be rid of with special nematodes and milky spore (6). Do you expect the chemical companies to tell you these things? Depending on how one looks at it, a few dandelions and clover make for a much more colorful and diverse lawn than one laden with poisons. In fact,