



in defense of

QUIETER, HEALTHIER NEIGHBORHOODS

I HAVE TWO leaf blowers in my possession. One is an inherited tool from the former owner of my property—a two-stroke belcher of smoke and sound with the power to erase the driveway of debris in seconds, strip the moss from the stones, and the sheathes from my nerves. Though it rests on the back with two ergonomic straps and a padded hip belt, it remains large and awkward, and the air is made filthy within seconds of its use. I have used it once in eight years and hated every nerve-jangling minute.

The other is a friend I have come to adore—a hand-held device with two buttons and a 52-volt battery that switches on without a struggle and does not require an ever-rumbling idle. A porch or deck *sans* leaves, cobwebs, and soil becomes the work of a moment, and the air smells just

as rich and sweet with its use as without. It is gentle with the moss but gentler on my nerves, and I do not worry that its brief but luxurious use will penetrate the sacred space of my neighbors' weekend.

SHEARS AND BROOMS VS. GAS AND OIL

“Luxurious” is a word I apply here specifically, for I still feel the luxury of it. I am a convert to the idea of a power-operated blower or hedge trimmer. For many years, I was against the use of both—preferring to use a broom and shears to carefully, quietly, and economically maintain the spaces within my garden with the environment in mind.

The substantial noise and pollution created in pursuit of meticulously-groomed but seldom-inhabited landscapes fueled my virtuous stance and put out of mind the benefits a more nuanced approach

toward power tools—be they gas or electric—might provide.

At the time, I wouldn't have been able to tell you how many decibels (dB) I was experiencing when my neighbors' yard crews revved up their two-stroke blowers. But I could tell you that it would make a phone conversation unintelligible. It negated all experience of everyday sound as I worked in my garden, or typed away in my office upstairs.

It is an experience that millions of people all over America have shared over the last year and a half, as COVID lockdowns forced workers and schoolchildren to concentrate, meet, and study without the protection of commercial-grade buildings to shield them from the loud noises and poor air quality created by roaming landscaping crews and enthusiastic homeowners. And on the week-



Attracted by reduced noise and emissions levels, many gardeners are turning to electric leaf blowers for tasks such as removing leaves from lawns, driveways and gutters.

end—when yards are meant to be enjoyed and coffee sipped outdoors—the assault on the senses seems even more unjust.

Birdsong. A closing door. A child playing. A tree moving in the wind. All erased by a noise that constantly undulates from a loud rumbling idle to a high-pitched full-throttled whine. All erased to ensure clippings move further down the street or that grass blades are kept at a regulation length. Outside, the combustion fumes are strong, and on a hot humid day with little breeze, they hang heavy in the air long after the crews are gone.

The trade-off has always felt ludicrous to this gardener.

AN UNEXPECTED CONVERSION

Two things happened to change my mind about the merits of power equipment.

I moved to a larger property, where tasks grew greater and the time needed to accomplish them grew smaller; and my husband uncovered a gas-powered blower in the barn.

With several giant sycamores on the property constantly shedding bark, leaves, and seeds onto paths, porches, cars, and drains, he saw it as an incredibly valuable tool and was thrilled to use it often—shattering my serenity and air-quality in the process.

I reacted with compromise and a bit of research, eventually bringing home a good-quality battery-operated blower that had the flexibility of being part of a series of garden tools I had initially no intention of buying.

Today, I have the full set, including a string trimmer, hedge trimmer, and blower. Turns out that the luxury of complet-

ing a job in a tenth of the usual time is one for which I'm willing to eat my words.

But any worthwhile conversion requires a robust intellectual framework. Was I truly making a difference to my ears and the ears of my neighbors? And just how environmentally virtuous could a rechargeable device be when it relied primarily on fossil fuels to charge and precious metals to create?

Bottom line, was a battery-operated tool really better—or did it just sound better?

I've ignored the concerns I had for several years, resting uneasily in the marketing narratives of "emission-free" or "environmentally sustainable," but recently decided I had to do a deeper dive.

QUIETER NEIGHBORHOODS

Let's look at the quiet part of "quieter

and healthier neighborhoods” first, using as our example the bad boy of lawn equipment: the leaf blower. Overall, battery-operated models operate at a lower decibel level than their gas-powered counterparts, but it would be incorrect to label them as quiet.

The newest battery-powered models operate at a range of 56 to 64 dB. That’s in the high range of normal conversation, and is not likely to have you reaching for ear protection; but it’s still mechanical noise and it still has the power to annoy if used excessively.

Consequently, the difference between long term exposure to 60 dB and that of 80 dB can be the difference between annoyance and hearing damage.

To my mind, one of the most compelling sound advantages of battery-operated tools rests in their ability to function without an idle. This means shorter bursts of sound vs. a continual whine. Also, due to a finite battery life, residential operators are more likely to act conservatively when assessing the work that needs to be completed on one charge. I know I do. Limitation focuses resources.

through total carbon emissions.

Cynics recognize that there is no such thing as a “zero-emissions” battery-operated tool, unless you live in one of the rare municipalities which generate 100 percent of their power from renewable sources. Even then, there is the environmental cost of manufacture and disposal to contend with. However, battery-operated power tools can be termed “zero emissions at use.” It’s an important distinction we sometimes fail to communicate in our zeal to proselytize, but it’s an important one for two reasons:



In contrast, two-stroke gas blowers can operate as high as 111 dB depending on throttle engagement and age – though the newest gas models currently do boast levels as low as 64 dB. Our experience of that level is dependent on how far we are standing from the operator. According to 3M’s Occupational Health’s Noise Navigator® database, average levels at the operator’s well-protected ears are 95 to 105 dB. Six feet away, you are still in the ear-pounding high 70s.

That doesn’t sound like a big difference, but the decibel scale is a logarithmic one, much like the scale used to chart earthquake magnitudes (which I was surprised to learn, is no longer the Richter version).

Though relatively inexpensive to run, gas-powered mowers can contribute significantly to noise and air pollution. Many gardeners are finding the transition to battery and electric models is not as painful as they thought.

That’s bad for perfectionists, but means less noise overall.

HEALTHIER NEIGHBORHOODS

Unhealthy decibel levels aside, there is the very large issue of air quality to be considered—both the effect on immediate air quality through the inhalation of carcinogenic volatile organic compounds (VOCs) and other exhaust emissions and fine particulates; and to our atmosphere as a whole

First, it means better immediate air quality. Non-road gas-powered engines are notoriously polluting; and two-stroke maintenance equipment that relies on the addition of oil to the gasoline are even more so. According to a study by Jamie Banks of Quiet Communities, Inc., and Robert McConnell, an environmental engineer with the EPA, their use contributes disproportionately to total VOC and fine particulate matter emissions when viewing gas powered lawn and garden equipment as a whole.

Second, the power produced by an electric plant is generated far more efficiently and subject to more stringent emissions requirements. In a University of Arkan-

study, annual carbon emissions for gas-powered blowers measured against the cost of their regional electricity generation were 3.5 times that of leading battery-operated models.

Though subregions vary, there is also a good chance that almost 20 percent of that energy is generated from renewable sources, according to the U.S. Energy Information Administration's estimate of national averages. You can find out what your numbers look like by plugging your zip code into the EPA's Power Profiler and viewing your eGrid Subregion's numbers.

Third, there is a great deal of heat generated in a gas-powered engine—energy that is ultimately wasted. Battery-operated tools put their energy squarely into getting the job done.

Bottom line: You can plug in and breathe easier.

BATTERY CONCERNS

Disposal is of course, an issue. Lithium-ion batteries are complex and highly inflammable, and the recycling of them requires a separate shredding process that creates a pre-extraction substance eerily termed "black mass." Through processes of pyrometallurgy (in effect, smelting) and hydrometallurgy (using acid and water to leach components from the substance), many components are recovered from black mass—but at cost of slag and toxic wastewater.

The recycling of power tool batteries has largely ridden on the coattails of advances made in electric vehicle battery recycling. Due to the popularity of the latter (nearly 2.5 million electric vehicles were sold in 2020), and the corresponding urgency to efficiently recycle them, we may find sustainable answers sooner than we might have without that giant market.

However, the processes are still in their infancy and for me at least, this remains the most problematic area of battery-powered tools. The issue can be sidestepped by choosing corded electric models; but for those who have larger properties, the good news is that battery life is long and growing longer. My little blower has been working without a replacement battery for five years now. And when I replace it, I am likely to have an even more efficient source of power at my fingertips.



Does a landscape need to be over-managed, or can we learn to enjoy it with less maintenance?

This touches upon another aspect of recycling and waste. The longer a consumer owns a reliable product, the less of that product ends up in landfills and recycling centers. A recent Consumer Reports survey of its members found that in general, battery blowers and trimmers are more reliable than gas—all brands scoring Excellent to Very Good, while less than half of gas-powered brands could boast the same.

AN OPPORTUNITY TO SHIFT OUR PERSPECTIVE

Currently, the price paid for less noise and less pollution is less power. In terms of blowers, this means one-half to two-thirds the air velocity of gas-powered models—and on the face of it, that means more hired labor.

This is of real concern to the landscaping industry, and ultimately, to those who hire them, but as we continue to watch manufacturers break records with new innovation, we may also have an opportunity to ask and answer important questions that powerful gas motors have sidelined.

Are our über-managed landscapes over-managed? Do we need to mow, trim and blow every seven days, or will every 10 to 14 days suffice? Should our streets resemble newly vacuumed floors, or—horror—outdoor streets?

Perhaps it's time to ask how clean is clean enough, and re-examine the maintenance load our particular landscape requires of us—particularly if we represent the only crew working that landscape. Perhaps it's time for a new IPM approach: Integrated Powertool Management.

I may own several battery-operated tools, but within this new profligate paradigm is compromise. Because I don't expect a pristine landscape in the pursuit of creating a living, breathing garden, there is no need to create a Disneyesque reality with the constant use of tools—particularly blowers—to manage it. Sometimes a power tool is not necessarily the best tool for the job.

So, my heavy-duty broom still rests on my porch for a quick sweep. I'll pull out the hedge-trimmer when the job is big and the shears when it's small, and I'll continue to value the moments I connect with my garden without any noise whatsoever.

While the technology continues to advance, there is a precious window to have these conversations with our neighbors, our HOAs, and our municipalities. I urge us all to have them.

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