

Quiet Lawns

Creating the “perfect” landscape without polluting the soundscape

Just as Americans settle onto their porch or deck for a peaceful end to a busy day, a chorus of lawn mowers, weed whackers, hedge trimmers, and leaf blowers drown out the sound of birds. It doesn't have to be that way.

Larger suburban lawns have generated a host of time-saving tools that, while making lawns neat and clean, fill the air with noise—audible litter—as well as other air pollutants. Most lawn equipment is so loud that the operator ought to be wearing earplugs to prevent hearing loss. The result is that on any given summer night, the drone of lawn equipment disturbs the peace. And in neighborhoods frequented by lawn services, the days can be filled with constant noise.

Increasingly, citizens are trying to turn off the din of lawn equipment. Many people are realizing that it makes no sense to create the “perfect” landscape by polluting the soundscape. Fortunately, we can turn off the din without turning off the time-saving lawn equipment.

A QUIETER FUTURE

The Noise Pollution Clearinghouse has tested more than 80 pieces of lawn equipment for noise. Consumer Reports has tested most of these for performance. Together these two sources should allow consumers to purchase high quality and quieter lawn equipment. Eventually, market forces and publicity will spur manufacturers to build better, quieter lawn equipment.

The change will not happen overnight. The average life of the tens of millions of mowers and trimmers in the United States is seven years. By 2012, most of today's stock will be in the recycle heap. There is a tremendous opportunity over the coming years to dramatically reshape our neighborhood soundscapes by reshaping the lawn and garden marketplace. The good news is that mowers seem to be getting quieter. The mowers we tested in 2005 tend to be quieter as a group than our 2004 tests. NPC is working hard to publicize

our findings and is committed to years of testing to ensure that the transition to quieter lawn equipment occurs. In 10 years, summer evenings in neighborhoods could be much more peaceful.

Currently, the quietest equipment available tends to be human powered or electric. Both human powered and electric tools have made significant advances in recent years, such as advances in battery technology that has the potential to significantly reshape the suburban soundscape. Older electric lawn equipment tended to be a stripped-down gas-powered mower. Newer designs like the electric-powered reel mower by Brill and the Neuton mower from Country Home Products are making the older electric mowers look like dinosaurs.

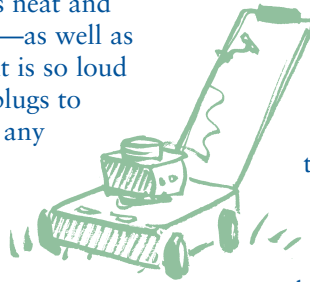
Electric-powered lawn equipment tends to be 10-20 dBA quieter than gas (one half to one fourth as loud), and air pollution emissions at the power plant tend to be much less than those at a mower. With electric powered mowers, you don't have to walk around your yard with earmuffs or earplugs. In addition, there are no gas cans to deal with, no trips to the gas station, and no spills in your trunk or garage. Also very important, *you and your children are not walking in the exhaust stream of an internal combustion engine* as you mow your yard.

There is hope that gas powered mowers will be both cleaner and quieter in the future. The newer mowers are cleaner than the older ones, as four-cycle engines have replaced two-cycle engines. Two-cycle engines are still found on millions of other pieces of lawn equipment, however. In terms of quiet, manufacturers are working on both quieter engines and quieter decks.

PROTECT THE SOUNDSCAPE— PROTECT YOUR HEARING

A typical gas-powered mower is 85 to 90 decibels for the operator (90-95 for riding lawnmowers). In a

continued on page 2



QUIET LAWN

continued from page 1

typical suburb, it can be heard a quarter mile away or more. Mowing a quarter-acre lot pollutes 100 acres of neighborhood with noise. And while the neighbors complain, the operator is slowly going deaf. The World Health Organization (WHO) and the Environmental Protection Agency (EPA) both recommend that people limit their total exposure to noises as loud as a lawn mower to 45 minutes per day for the quieter gas mowers, 15 minutes for the average mowers, and five minutes for the loudest ones. If you are using an average gas-powered mower, unless you can finish the job in 15 minutes and spend the rest of the day in peace and quiet, you should be wearing earplugs.

Electric lawn equipment is usually 80 decibels or less for the operator. The noise footprint is on the order of acres, not 100 acres. And the WHO and EPA recommend you limit exposure to such noise levels to less than 8 hours, more than enough time to safely mow a lawn.



OUR FAVORITES

For Small Lawns—Reel Mowers (55-60 dBA @ 25 feet)

NPC has tested dozens of these mowers. Our favorite reel mower is the Brill Luxus 38 (Brill also makes a smaller Luxus 33 with the same design), because, in addition to being quiet, it's lightweight, easy to push, and its blades do not touch each other so they are more durable and require less sharpening. Reel mowers are a great source of useful exercise, something more and more of us need these days. Reel mowers are the choice of golf courses because of their better cut at low cutting heights and less damage to the grass than rotary mowers.

But reel mowers are not for everyone. Our testers were happy with them on lawns up to 5,000 square feet, but that will depend on how much useful exercise you want. In addition, if you don't regularly mow your lawn (if you let it get too long) you're in for a lot more work. The secret to being happy with a reel mower is

to keep the grass short and mow frequently (keeping the blades sharp doesn't hurt either). Also, if your lawn is not smooth the mower tends to bounce around a lot and cut unevenly. And if your lawn is not all the same height (full of weeds with dandelions sticking up), the mowers do not perform well (they cut the grass fine but leave the dandelions). Reel mowers cut the greens, fairways and nicer suburban lawns very well, but if your lawn has more in common with the rough or a sand bunker, an electric mower might be a better choice.

For Small and Medium Lawns—Electric Mowers (60-65 dBA @ 25 feet)

We've tested a number of electric mowers, from a little 13-inch mower to an electric riding mower. Our favorites are the Brill (Sunlawn) cordless electric reel mower (basically the same as the reel mower above, but with a cute

little battery and electric motor) and the Neuton cordless electric mower. Both of these have narrow cutting widths, so they are better on smaller lawns. They have removable batteries, so you can buy a second battery and keep mowing larger lawns. Both have accessories such as weed whackers too.

The Brill is our choice on nicer lawns (see comments above), while the Neuton is a better choice for lawns that don't get as much care and attention.

For Medium or Large Lawns—Large Electric Mowers or Quieter Gas Mowers (70-75 dBA @ 25 feet)

For lawns that require a wider cutting width, Black and Decker makes an 18 inch cordless and 19 inch corded electric mower. The Black and Decker batteries are not removable as in the Neuton. The corded version eliminates this problem, but running extension cords across your yard is an issue.

The secrets to being happy with electric mowers such as the Black and Deckers mentioned above include frequent sharpening of the blade (by giving up the horsepower of a gasoline engine, you are also giving up the ability to hack your lawn into submission with a dull blade). Also, you will be much happier once you learn a mowing pattern for your lawn that allows you to progress away from your electric cord, or in the case of

the battery powered mower, if you take good care of your batteries to ensure longer life.

The noise levels of both the Black and Decker mowers are close to that of the quietest gas powered equipment. For Black and Decker mowers and the quieter gas powered mowers, the deck noise, and not the motor noise is the most important issue. All too often, mower decks act as large, noisy fans with rattly housings. The biggest factor in how much deck noise you hear is the type of discharge. For example, a side discharge creates a large gap in the deck for noise to escape. Deck height is an important factor — a higher deck height setting also creates a larger gap for noise to escape. The Black and Decker mowers varied by 6-12 decibels depending how they were set up. You don't see that much variability in a typical gas-powered mower because the engine noise masks the deck noise.

The quietest gas-powered mower we tested was an Ariens Model 911097 with a Honda engine. Honda claims they make the quietest lawn mower engine and that appears to be the case.

Other gas-powered mowers that were quieter than most include the Honda HRX217HX, many Craftsman mowers (see table) and a Lawn-Boy 10684. Each of these was less than 85 dBA for the operator and 75 dBA at 25 feet.

The loudest mowers we tested were a pair of Snapper mowers and the Husqvarna 5521CHV.

For Very Large Lawns—Riding Electric Lawn Mower (60-65 dBA @ 25 feet)

The Electric Ox sounds more like a small window fan than a mower. This mower is perfect for large, noise sensitive lands such as parks, schools if mowing is done during school hours, hospitals, etc. Unfortunately the Electric Ox is definitely not for everyone. Since there are still very few of these made, they have not yet reached economies of scale needed to reduce costs. The Electric Ox costs a couple thousand dollars more than similar gas riding mowers. But it is very impressive, with a five-hour battery life and a 42" deck, and a noise level only slightly louder than an electric push mower. The exceptionally quiet mower deck is its most impressive feature.

The John Deere L111 was the quietest gas powered riding mower we tested, even quieter than several walk behind models at 25 feet (operator levels are still higher than walk-behind models because the operator's ear is closer to the engine and deck). While the operator's ear

measurements varied by 3 decibels, the 25 foot measurements showed a range of 6 decibels (77 decibels for the John Deere, compared to 83 decibels for Yard Man).

AFTER THE ENGINE, THE DECK

For smaller lawns, electric and human powered mowers are an excellent match. For larger lawns, because of the role of deck noise in larger mowers, quieting the motor alone is not enough to protect the soundscape. The Electric Ox, however, has shown the way in terms of how to quiet deck noise. Even though the Electric Ox has a 42" deck, its noise was less than all the 18" or greater mowers we tested. That is because it employs many small, electrically powered blades that are recessed in a fiberglass shell. Perhaps the best short-term solution for larger lawns is a hybrid—gas-powered riding mowers with electric decks. So far NPC hasn't found any manufacturers willing to try this venture. A couple years ago, the US manufacturers were

complaining that they couldn't meet new European noise standards for riding mowers because even with a quiet engine, the deck noise was too great. All those rattling belts and pulleys and blades and levers can be eliminated with an electric deck.

CONSUMER REPORTS

Quiet mowers are only half the story. It does no good to buy a quiet mower you don't use or you want to replace within one year. Take seriously the cautions about keeping your grass short for reel mowers, and frequently sharpening the blades. *Consumer Reports* is also an excellent source about overall mower performance in their May and June issues each year. The magazine is available at your local library, at many newsstands for \$3.99, online at www.ConsumerReports.org for a fee of \$5.95 for one month's access, or you can subscribe by writing them at Consumer Reports, P.O. Box 2109, Harlan, IA 51593-0298 (one year's subscription is \$26). Finding the right mower for your lifestyle and lawn involves balancing issues of air and noise pollution for the operator as well as the community, with performance and performance options such as mulching, bagging, or efficient side discharge. Rarely does one mower do everything well, but you should be able to find a quieter mower that does what you want well.

Lawn Mower Test Results

Brand	Type	Model	Year Tested	Cost	Noise at Operator's Ear (dBA)	Hearing Protection
McLane	Reel Mower	17" Front Throw	2004	\$200	63.2	Not Needed
Brill/Sun Lawn	Cordless Electric Reel Mower	Accu Mower 380 ASM	2003	\$350	67.6	Not Needed
Brill/Sun Lawn	Reel Mower	Luxus 38	2003	\$200	68.0	Not Needed
Silent Reel	Reel Mower		2003	\$249	74.0	Not Needed
American	Reel Mower		2003	\$130	76.0	Not Needed
Neuton	Electric-Cordless	EM 4.1	2003	\$400	77.0	Not Needed
Yard Machines	Electric-corded	13 inch	2003	\$200	79.0	Not Needed
Black & Decker	Electric-Cordless	CMM 1000	2004	\$460	79.0	Not Needed
Black & Decker	Electric-Corded	MM875	2004	\$240	80.0	Not Needed
Ariens	Gas—Self Propelled	911097	2004	\$470	81.9	Not Needed
Craftsman	Gas—Self Propelled	37657	2005	\$280	83.3	Recommended
Craftsman	Gas—Push	38768	2005	\$220	83.4	Recommended
Honda	Gas—Self Propelled	HRX217HXA	2004	\$700	83.7	Recommended
Lawn-Boy	Gas—Self Propelled	10684	2005	\$340	83.7	Recommended
Craftsman	Gas—Self Propelled	37706	2005	\$300	83.7	Recommended
Craftsman	Gas—Self Propelled	37709	2005	\$340	84.0	Recommended
Craftsman	Gas—Self Propelled	37794	2005	\$400	84.0	Recommended
Murray	Gas—Push	225112X92A	2004	\$160	84.0	Recommended
Weed Eater	Gas—Push	961360001	2005	\$160	84.1	Recommended
Lawn-Boy	Gas—Push	10683	2005	\$320	84.3	Recommended
Lawn-Boy	Gas—Self Propelled	10695	2005	\$450	84.3	Recommended
Craftsman	Gas—Self Propelled	37910	2004	\$280	84.3	Recommended
Craftsman	Gas—Self Propelled	37784	2004	\$400	84.6	Recommended
Craftsman	Gas—Push	38885	2005	\$230	84.7	Recommended
Toro	Gas—Self Propelled	20055 Super Recycler	2005	\$520	84.7	Recommended
Lawn-Boy	Gas—Self Propelled	10685	2005	\$380	84.3	Recommended
Murray	Gas—Self Propelled	226111X92A	2004	\$220	84.9	Recommended
Yard-Man	Gas—Self Propelled	12A978Q	2004	\$400	84.9	Recommended
Craftsman	Gas—Push	38766	2005	\$140	85.0	Recommended
Toro	Gas—Self Propelled	Personal Pace Recycler 20031	2005	\$420	85.0	Recommended
Toro	Gas—Self Propelled	Personal Pace Recycler 20031	2004	\$420	85.2	Needed
Bolens	Electric-Corded	18A-V17-765	2004	\$190	85.4	Needed
Craftsman	Gas—Push	38746	2004	\$200	85.6	Needed
Craftsman	Gas—Self Propelled	37778	2004	\$330	85.6	Needed
Troy-Bilt	Gas—Self Propelled	12AV569N	2005	\$300	85.7	Needed
Troy-Bilt	Gas—Self Propelled	12AV839N	2005	\$350	85.7	Needed
MTD	Gas—Push	Pro 11A588Q795	2005	\$200	85.9	Needed
Craftsman	Gas—Self Propelled	37669	2005	\$300	86.1	Needed
John Deere	Gas—Self Propelled	J563C	2005	\$540	86.1	Needed
Husqvarna	Gas—Self Propelled	55R21HV	2004	\$480	86.2	Needed
Toro	Gas—Push	20008	2004	\$350	86.4	Needed
Craftsman	Gas—Self Propelled	37855	2004	\$330	86.4	Needed
Bolens	Gas—Push	11A-414E	2005	\$160	86.5	Needed
Yard-Man	Gas—Self Propelled	12A445E755	2004	\$260	86.9	Needed
Lawn-Boy	Gas—Self Propelled	GOLD SERIES 10655	2004	\$400	86.9	Needed
Toro	Gas—Self Propelled	Personal Pace Recycler 20041	2005	\$420	87.0	Needed
John Deere	Gas—Self Propelled	JX75	2005	\$840	87.0	Needed
MTD	Gas—Push	Pro 11A588Q	2004	\$200	87.6	Needed
Bolens	Gas—Push	11A084C163	2004	\$170	87.6	Needed
Bolens	Gas—Self Propelled	12A-264E	2005	\$230	88.0	Needed
Yard-man	Gas—Self Propelled	12A-568Q	2005	\$290	88.1	Needed
Craftsman	Gas—Self Propelled	37894	2004	\$280	88.1	Needed
Yard-Man	Gas—Self Propelled	DLX 12A567A	2004	\$300	88.3	Needed
Troy-Bilt	Gas—Push	11A-439R	2005	\$200	88.5	Needed
Yard-Man	Gas—Self Propelled	12A-556Q	2005	\$330	88.6	Needed
Snapper	Gas—Self Propelled	RP217018BV	2005	\$520	88.8	Needed
Craftsman	Gas—Push	38855	2004	\$230	89.4	Needed
Bolens	Gas—Push	11A-584E765	2004	\$170	89.4	Needed
Troy-Bilt	Gas—Self Propelled	TuffCut 230 12AF569O	2004	\$400	89.4	Needed
Yard-Man	Gas—Push	11A435D775	2004	\$190	89.4	Needed
Snapper	Gas—Push	MR216517B	2004	\$410	90.3	Needed
Snapper	Gas—Self Propelled	RP215517HC	2004	\$660	90.9	Needed
Husqvarna	Gas—Self Propelled	5521CHV	2004	\$350	90.9	Needed
Electric Ox	Electric—Riding		2003	\$7,500	82.0	Recommended
John Deere	Gas—Riding	L111	2005	\$1,800	90.2	Needed
Craftsman	Gas—Riding	27564	2005	\$1,500	90.8	Needed
Craftsman	Gas—Riding	27570	2005	\$1,800	90.9	Needed
Ariens	Gas—Riding	1434 915061	2005	\$2,300	91.0	Needed
Snapper	Gas—Riding	ZT18440KH	2005	\$4,000	91.2	Needed
Craftsman	Gas—Riding	27537	2005	\$1,100	91.2	Needed
Ariens	Gas—Riding	1540 915065	2005	\$3,100	91.4	Needed
Cub Cadet	Gas—Riding	13AQ11CP	2005	\$2,000	91.6	Needed
Cub Cadet	Gas—Riding	LT1045 13AX11CH	2005	\$1,700	91.7	Needed
Husqvarna	Gas—Riding	Z4217	2005	\$2,700	92.2	Needed
Yardman	Gas—Riding	13AN791G	2005	\$1,000	92.3	Needed