



Environmental Benefits of Lawns

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Most of us in Hawai'i are becoming more environmentally conscious and willing to pitch in to help the environment in our own way. We recycle aluminum cans, glass and plastic containers, and paper products in order to reduce the amount of waste going into our diminishing landfills. We are also making a greater effort to buy products made from recycled materials and to purchase energy-efficient appliances for our homes. This is truly becoming the age of environmental consumerism, and these actions can have a big impact on improving our environment.

If you are one of the thousands of Hawai'i homeowners trying your best to maintain a healthy lawn and landscape, you're a better environmental steward than you may have thought. Even with all of Hawai'i's open green space, home landscapes with trees, shrubs, and turfgrasses are major environmental helpers that are often overlooked.

Let's focus on the environmental benefits of grass. The Lawn Institute of America estimates that there is more than 31 million acres of managed grass in the United States—over 50,000 square miles of it—and over 60 percent of it is found in lawns like yours. One of the main benefits of a healthy lawn is in the dense leaf area and amazing root structure. The root zone (the depth of the roots in the soil) of most warm-season grasses we have in Hawai'i is about 12–18 inches, depending on soil type and water availability. According to the Lawn Institute, a healthy lawn has six grass plants per square inch, and each individual plant produces 387 miles of roots! That means the average lawn contains 8.5 million

turfgrass plants, which produce 3 billion miles of roots! Next time it rains, notice where the water that fills the roadside gutters and storm sewers comes from. You'll see that very little comes from your lawn. That's because dense, healthy sod is the best natural surface we have for trapping and storing rainwater and at the same time reducing soil erosion. A healthy 10,000-square-foot lawn can absorb more than 6000 gallons of rainwater without noticeable runoff. The root system also acts as a natural filtering system for the water, absorbing excess fertilizer and other chemicals before it reaches the groundwater that is the source of our drinking water.

The leaves of those millions of grass plants also help clean our air, collecting dust and dirt and absorbing various types of harmful atmospheric gasses. One acre of grass can absorb and assimilate hundreds of pounds of sulfur dioxide created by automobile exhaust. In addition, grass and all other green plants absorb carbon dioxide and give off oxygen through the process of photosynthesis. This is one of the main processes that remove carbon dioxide, one of the main "greenhouse gases," from the air. More importantly, it is the only natural process that produces the oxygen we breathe in the air. Believe it or not, your home landscape is an important oxygen-producer, just by itself. A 50 ft by 50 ft area can produce enough oxygen to sustain a family of four. It is estimated that the trees and grass along the U.S. interstate highway system release enough oxygen to support 22 million people annually.

Grass is one of the major producers of new soil. Your lawn is continually making topsoil by developing, dying off, decomposing, and redeveloping. All of this adds to the organic matter in the soil. An average-size home lawn in Hawai'i can generate over a ton of grass clippings annually. By leaving clippings on the lawn and allowing them to decay naturally, you return a significant amount

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of the nutrients that help it grow, and you avoid possible pollution of the groundwater caused by excessive applications of fertilizers. If you do decide to collect and dispose of clippings and other green waste, using our new greenwaste curbside recycling pickup can reduce the total amount of rubbish going to the landfill by up to 25 percent.

And finally, let's talk about ever-increasing energy costs. The greenery around us is nature's air conditioner. A well maintained lawn and landscape keeps your home significantly cooler by reducing surface temperatures by 30–40°F compared to bare soil and 50–70°F cooler than streets and sidewalks. Don't believe it? Next hot sunny day, go stand barefoot in you lawn for a few minutes,

and then see how long you can stand in the street or sidewalk. Researchers have estimated that an average home landscape provides the cooling effect equivalent to 10 tons of air conditioning, compared to the 3–4 ton capacity of the average air conditioning unit.

Just as aluminum and plastic recycling helps the environment, one family can make another positive contribution by creating and properly caring for a quality lawn, not to mention adding 10–15 percent to the value of your home.

See also . . .

Using trees to save energy

<http://www.ctahr.hawaii.edu/oc/freepubs/pdf/L-5.pdf>