Sustainable Lawn Care Practices

Chris Hogan
“A sustainable landscape is a planned and managed system of green spaces, greenways, recreational lands, parks in combination with natural lands that offer benefits of water conservation, filtration and adsorption, as well as air particle removal and heat relief. Sustainable landscapes also contribute to the health and quality of life to people, communities and entire countries”. – Ronald G. Dodson
THE FACTS:
There are 58 million lawns in the United States.
Over **$30 Billion** dollars are spent on lawn care each year.
3 Million tons of chemical fertilizers are spread on lawns each year.
80 million pounds of pesticides are applied
7 Billion gallons of water are used every day for residential irrigation.
17 Million gallons of gasoline are spilled annually filling lawn mowers
5-10% of the nation’s air pollution is produced by gas lawn equipment.
It is no wonder that lawns get no respect.
WHAT IS THE SOLUTION?
Rock Lawns
Vegetable Gardens?
Clean Air Lawn Care is changing the way America mows & feeds our lawns.
The Benefits of Clean Air Lawn Care’s Sustainable Organic Lawns

Lawns are a fantastic play area for children & pets

Lawns help to remove CO₂ from the atmosphere

Lawns cool the air and reduce ambient temperature

Lawns remove dust, pollutants and particulate matter from the air and water (up to 12 million tons per year)

Lawns significantly reduce noise pollution in urban areas
Top 10 things you can do to eliminate the damage that traditional lawn care practices have on the environment.
1. Educate customers on reducing the size of their lawns
2. Grow the right Grass
Types of Grasses for Your Region

Region 1
Kentucky bluegrass, perennial rye, bentgrass, fescue

Region 2
Bermuda, zoysia, centipede grass; St. Augustine grass in certain areas.

Region 3
Grasses from Region 1 can be grown here if irrigated. Otherwise, wheatgrass and buffalo grass.

Region 4
Bermuda and zoysia grass. Kentucky bluegrass can be grown in cooler altitudes.

Region 5
Kentucky bluegrass, perennial rye, bentgrass, fescue.
3. Get a Soil Test
Graphical Soil Analysis Report

Date of Report: 11/25/08
Lab No: 51777
Sample ID: MCINN

Analyte | Organic Matter % | Nitrogen NO3-N ppm | Phosphorus P ppm | Potassium K ppm | Magnesium Mg ppm | Calcium Ca ppm | Sodium Na ppm | Sulfur SO4-S ppm | Zinc Zn ppm | Manganese Mn ppm |
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<td>1439</td>
<td>88</td>
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CEC (cmol/100g) | 0.4 | 12.4 | 6.5

ECe dilm | INCREASING SALINITY | AVERAGE | HIGH

Buffer pH: | INCREASING NEED FOR LIME | BASIC

Soil Fertility Guidelines

Crop: Lawn
Rate: lb/1000 sq ft
Notes:

NITROGEN: The above requirements may need to be adjusted according to local conditions. Follow label instructions as controlled-release fertilizers may be applied less frequently.

THATCH CONTROL is necessary to discourage insect and disease problems, and avoid poor water penetration.

Light vertical cutting plus topdressings (and liming if low pH) will aid decomposition.

NITROGEN sources include composts and legumes as well as blood meal, cottonseed meal, hoof & horn meal, fish meal, or chicken feather meal. Sodium nitrate is not recommended. Monitor brix levels.

POTASH: Composts may be a significant source of potash. Certain sources of sulfate of potash may also be used, as well as kelp/seaweed products, wood ash, crushed granite and greensand.

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Water infrequently and deeply
• Water only in the early AM 1-2 x per week
• Adjust & Align Sprinklers
• Install Smart Controllers & Rain Sensors
• Use local rebates for replacing old heads
• Turn it OFF when it rains
5. Mow Smart
Mow higher & Leave the clippings on the lawn
Benefits of Mulch mowing

- Leaving grass clippings on the lawn returns nitrogen and other nutrients back to the soil.
- Conserves landfill space and the energy to haul it there.
- Reduces water pollution by allowing you to use up to 50% less fertilizer
Compacted Soil & Low Nitrogen levels

Before
Compacted Soil & Low Nitrogen levels
6. GO Electric

www.cleanairlawnicare.com
Electric vs. Gas

• Electric lawn mowers emit 3,300 times less hydrocarbons

• Electric lawn mowers emit 5,000 times less CO₂

• Electric lawn mowers emit one-fifth as much NO₂ as gas lawn mowers
7. Try a kinder & gentler approach to pests
**Sustainable Lawn Care Practices:**

Mow taller: 2 – 3” on rye/fescue, 1 - 1 ½” on bentgrass
Mulch mow
Soil test
Fertilize with organic products (when needed)
Proper irrigation practices
Lawn renovations

**Use an IPM approach:**
Monitor, use Cultural Controls, Biological Controls, Physical Controls

**Organic Fertilizers, Soil Amendments & compost topdressing will add microbial life back into the soil which strengthen the grass and fight disease**
8. **STOP USING **TOXIC PESTICIDES
Read your weeds...

Compacted soils often have annual bluegrass, plantain, goose grass and can mean you need to *Aerate the lawn*.

Clover can mean your soil has *Low Nitrogen*.

Lots of Dandelions might mean you need less Calcium and more Magnesium.
9. **Eliminate Chemical Fertilizers**
Chemical Fertilizer Facts:

Chemical fertilizers disrupt the nutrient balance in the soil, accelerate turf growth, increase the need for mowing and contribute to thatch buildup.

Synthetic fertilizers create salt buildup in the soil and inhibit the grasses ability to take up water.

Because of the extremely high levels of Nitrogen, Phosphorus and Potassium in synthetic fertilizers much of it completely misses the plant and ends up running into groundwater, eventually poisoning our rivers, lakes and streams.
10. Feed the Soil not the plant
It takes 500 years to form an inch of topsoil.
Benefits of Organic Fertilizers

Slow release fertilizers break down slowly into the soil, work with the natural cycle of the grass and release their nutrients gently over time.

Encourage deep root development to help reduce watering requirements.

Provides natural food for beneficial soil microorganisms.

Provide grasses with better drought tolerance saving water, improve disease resistance and provide greater nutrient uptake.
Feeding the Soil

- Organic Fertilizers
  - Organic Matter
  - Soil Nutrients

- Micro-organisms

Feeding the Plant

- Chemical Fertilizers
  - Plant Nutrients

- Plant Nutrients
Clean Air Lawn Care’s goal is to create and maintain beautiful lawns using earth-friendly and family-healthy methods.

Our lawn care treatment programs integrate the use of Organic fertilizers, Organic Pre-emergent weed control, and Micro-Organism Soil Builders.

Other chemical competitors use chemical based fertilizers that are harmful to pets, children and our environment.
Organic Lawn Treatment examples...
- heavily *compacted* soil
- low *nitrogen*
- heavy *thatch*
3 weeks after Aeration, Compost Topdressing, Organic Fertilization & Overseeding
Before

Compacted Soil & Low Nitrogen levels
Aeration & Worm Casting Tea

After
Compacted Soil & Low Nitrogen levels

Before
1% for the Bees!
2011 Clean Air Lawn Care reduced over 135,237 pounds of air pollution using emission-free equipment