



## LAWNS FACT SHEET

- Good organic lawn care involves more than fertilizer and avoiding pesticides. It means building up your lawn's root structure and the soil that supports it so that you achieve a natural balance between beneficial organisms and pests. With organic techniques that balance will last forever! Some basic principles to organic lawn care are: **AERATE**-weedy lawns are often the results of poor drainage and compaction, aeration allows air to enter soil assisting in breakdown of thatch and allows nutrients to easily enter the soil root zone. **DETHATCH**- often caused by over fertilizing with commercial synthetic chemical fertilizers and over watering in the past. Note: Up to a 1/2 inch of thatch can be beneficial. **TEST**- have a complete soil analysis done and bring soil to correct balance of nutrients and structure. **FEED** the soil with a balanced organic (slow release) fertilizer or *compost* and **MOW HIGH**. If grass is cut short then shallow roots develop making it difficult for the grass to withstand drought. Also keep mower blade **SHARP**, a dull blade damages the grass each time it is cut.
- Thatch is composed of roots, stolons, and rhizomes(runners). Mulching mowers leave the grass clippings on the yard (adds organic matter & nitrogen) which increase the microorganism activity which assists in the breakdown of thatch.
- Key to success in Houston with St. Augustine lawns is to make sure the soil is rich and alive. Commercial synthetic chemical fertilizers and weed & feed formulas kill off the microorganisms in our soil that is needed for good health. Also the use of fungicides, bactericides, herbicides, and insecticides destroy our soils health even when they are used on surface plants, as rain, dew or watering will wash the chemicals into the soil.
- Endophyte's is a friendly fungus that has a mutually beneficial association with many species of grasses, it derives food as well as protection from living between the cells of the turfgrass plant's roots. This fungus does not harm the host plant but does produce toxins that are released into the leaves and roots of the grass plant and these toxins are harmful to surface feeding insects. Studies at Rutgers University and Lofts Seed Inc. have shown that grass with endophyte's present are able to withstand drought and weed invasion better. In addition the fungus produces toxins that repel chinch bugs, sod webworms, and other surface feeding insects.



- A Cornell University study concluded that mulching mowers can provide a convenient and economical solution to the problem of disposing grass cuttings and leaves. The study revealed that over a season the lawn became healthier and with 40% more growth (as compared to a lawn cut with a bagger). It was estimated that on 1/2 acre lawn a person would save \$692 annually in disposal fees.
- Frequent mowings (every 3-4 days) helps promote lawn health. Cutting over 1/3 of the leave length injures grass, greatly increasing the chances of insects and disease problems
- It has been estimated that there are **930 Billion microorganisms** in each 1 pound of soil under grass turf (Eliot Roberts of the Lawn Institute)!
- Researchers have discovered a group of fungi that protect lawn grasses from pests. The fungi is called endophytes and live in a symbiotic relationship that benefits both plant and fungus. The fungi produce toxins that are harmless to the grass (and humans) but repels chinch bugs, sod webworms and other surface feeding insects. (Fine Gardening, July/August 1993).
- Research at Rutgers University and Lofts seed company indicate that grass plants inoculated with endophytes are more vigorous, and able to stand drought and weed invasions better. (Fine Gardening, July/August 1993).
- "Plants grown with ammonia-based fertilizers (synthetic chemical based) actually attract pest insects." Earth Kind Gardening, 1993
- Grey leaf spot is often caused (associated with) by the application of high nitrogen synthetic chemical fertilizers. It can be treated by lots of watering and the application of the synthetic chemical fungicide Daconil. OR *it can be prevented* by treating the yard with compost and using an organic fertilizer.
- **ALL of the dozen or so commonly recommended lawn pesticides are suspected of causing serious long term health problems.** Captan and Benomyl are carcinogens and mutagens. Many people have severe allergic reactions to Captan often requiring hospitalization. Dursban has caused chronic kidney damage in laboratory tests and 2,4D



has been linked to lymphatic cancer. Many homeowners report problems with common lawn chemicals causing excruciating headaches, nausea, extreme fatigue, and other debilitating illnesses. Garbage Magazine, July/August 1990.

- A study reported in the "American Journal of Public Health" has found that children whose yards were treated with herbicides (weed & feed) and insecticides had **four times** the risk of certain cancers. Houston Chronicle, February 27, 1995.
- The National Academy of Science has said "exposures to pesticides early in life can lead to a greater risk of... cancer, neurodevelopmental impairment, and immune dysfunction". This means our children are in far greater danger.
- A medical school study shows that children in families that use a lot of pesticides are nearly seven times as likely to develop leukemia. ....The EPA estimates that 300,000 hired farm workers and their children suffer acute illness and injuries from exposure to pesticides each year. Farm Workers Still Unprotected, New York Times 2/25/92.
- Numerous studies in various states have shown that Brown Patch in grass is a disease caused by fertilization. There is a direct link between brown patch and fertilization with synthetic nitrogen sources during the growing season. More fertilizer = more brown patch.



### Basics of an Organic Approach (Compare the two)

#### SYNTHETIC CHEMICAL APPROACH

- Mow low and often
- Catch grass clippings
- High analysis fertilizer 4-5 times per year
- High nitrogen fertilizer
- Synthetic fertilizer without organic matter
- Fertilizer based on plant needs
- Fertilizers with none or few trace minerals
- Attempts to control and manipulate nature
- Treat symptoms (insects, diseases, etc.) not causes
- Uses extremely dangerous chemical pesticides that pollute
- Sprays are used as preventatives
- Discourages use of beneficial insects and natural controls
- Uses only labeled chemical products
- Creates health problems for users of the chemicals
- Requires large amounts of water
- Time consuming and very expensive in both money and health

#### ORGANIC APPROACH

- Mow higher and less often
- Leave clippings on ground
- Low analysis fertilizer 2 times per year
- Natural low nitrogen fertilizer
- 100% organic fertilizer
- Fertilizer based on soil needs
- Fertilizers loaded with trace minerals and other nutrients
- Works with nature
- Treats causes such as soil and cultural problems, not symptoms
- Uses natural pest control (if required) that does not pollute
- Soil improvement is major preventative
- Uses beneficial insects as a major tool and other natural controls
- Uses soaps, teas, and homemade mixtures and labeled products.
- Rarely requires supplemental water

Compiled from several sources:

Excerpts from "Texas Organic Gardening Book", by Howard Garrett

Excerpts from "ACRES, USA" magazine

Excerpts from "Organic Gardening" Magazine, Rodale Research Institute

Excerpts from "The New Garden", television series