

## Bethel College Mennonite Church Creation Care Committee Creation Stewardship Notes # 6 – January 2004

Home lawns cover a significant area of land in the United States. About 40,000 square miles are in turfgrass and 81% of this, or over 20 million acres, is in home lawns. The lawn is a cultural practice that developed in Europe and North America but it has become an important cultural icon and serves many useful purposes. It is an important aesthetic in the landscape of the home and also provides many practical functions. However many of these functions could be served by more diverse habitats, such as grass and wildflower meadows. The lawn is also the source of a number of environmental problems:

1. Lawns are an important source of pollution of water and land because large amounts of pesticides and fertilizers are used on lawns. In fact, lawns get more chemical input per unit of area than most crop fields and much of it runs off. The U.S. Environmental Protection Agency estimates that 9 million pounds of 2,4-D are used on lawns every year.
2. Watering lawns uses large amounts of freshwater, a resource that is limited in many areas.
3. Care of lawns is energy intensive. Mowing lawns not only uses much energy but is a significant source of air pollution.
4. Much effort often goes into maintaining a monoculture of one species of grass. This is degraded habitat for other forms of life. Diverse habitats support more life forms.

Lawns often become the default landscape maintained wherever there are no gardens or shrubs. Should we limit lawns to areas where they serve a useful purpose and maintain more area in our yards in diverse habitats?

Our lawns can be maintained in a way that minimizes pollution and the use of resources. The most important prerequisite is to use grasses that are well adapted to the region and often to use a mixture of grasses. Each species will fill its own niche in the lawn. Grasses that are native to a region are obviously well adapted and can be used. Grasses such as Buffalograss and Blue Grama can be used in our region.

A recent article by Caroline Cox (C. Cox. 2003. **Taking care of your lawn without using pesticides.** Journal of Pesticide Reform 23(4):8-9) outlines five steps for maintaining a healthy lawn without the use of pesticides:

1. Build a healthy soil – She says, “Grass grows best in a biologically active soil where soil organisms like earthworms recycle plant material so that nutrients are slowly released in the root zone of the grass.” The fertility of the soil must be maintained. She recommends “organic fertilizers, including compost, because they release nutrients slowly, are less likely to run off into streams, and support microorganisms that increase soil fertility and fight lawn diseases.” Compost also adds organic matter to the soil.

The soil in a lawn can become compacted. It should be aerated by punching holes in the lawn 3 to 4 inches deep and about 6 inches apart.

2. Proper mowing – “For each grass species, there is a range of optimal mowing heights. Mowing your lawn at the high end of this range allows the grass to develop a deeper root system and tolerate drought, heat, shade, disease, and pests.” Having high dense grass growth inhibits the germination of many weeds that get their opportunity where disturbance thins the grass. The frequency of mowing depends upon the rate of growth of the grass but mowing should be often enough that no more than 1/3 of the grass blade is cut. Keep the mower blade sharp and mow when the grass is dry. “Grasscycling (leaving grass clippings on the lawn when you mow) adds plant nutrients and organic matter to your soil and keeps the clippings out of landfills. . . . grasscycling reduces fertilizer needs by 25 percent.”
3. Proper watering – “Frequent, light watering produces a shallow-rooted lawn. Overwatering leaches nutrients, promotes certain weeds, and causes oxygen starvation of grass roots.” Don’t water until the upper two inches of the soil are dry and then water deeply but minimize runoff. And if you have a grass like Buffalograss that goes dormant in dry weather, you may seldom need to water.
4. Remove excess thatch if it develops – “Thatch is the partially decomposed grass stems, roots, and leaves found between the green part of a lawn and the surface of the soil. If your lawn has about ½ inch of thatch, it helps reduce soil compaction and prevents some weed seeds from germinating. A thicker thatch layer can be a problem for healthy grass growth and should be removed. But problems with excess thatch are usually caused by “excessive fertilizing and watering, infrequent mowing (which adds large amounts of vegetative matter at one time) and frequent pesticide use” (which may slow decomposition).
5. Have realistic expectations for your lawn – A healthy lawn will have some plants other than grasses (weeds?) and some insects (pests?). Some other plants and animals may make the lawn ecosystem more sustainable. If it functions well why should we try to make it a perfect monoculture of grass? A lawn with a mixture of a number of grass species and some low growing broad-leaved plants can be quite attractive. Plants like Johnny-jump-up, Wild Strawberry, Carolina Anemone, False Garlic, Violet Wood Sorrel, Prairie Petunia, and Prairie or False Dandelion can add color to a lawn.

Some areas may be too shady, too dry, too wet, or too packed by foot traffic to grow good grass. For these areas try other possibilities

There are a number of organizations and institutions that can help us manage our yards in an environmentally responsible way. In the Newton/Hesston area, we can contact the Agricultural Extension Service, Dyck Arboretum of the Plains or Kauffman Museum for advice, books and some native seeds and plants. To be good stewards of the Creation we must be good stewards of the land under our control. We should share it with other life forms and maintain healthy ecosystems. If we want a lawn on part of our yard, we should maintain it with minimum impact on the environment and intersperse it with more diverse habitats.