



FROM THE UPSTATE CHAPTER OF THE SC NATIVE PLANT SOCIETY

NATIVE PLANT *alternatives* to introduced grass lawns

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Most of us admire to some degree the look of a neatly trimmed, dark green, weed-free lawn, but it is time for us to re-examine our love affair with the traditional lawn.

There is emerging science that shows conclusively that there are serious environmental and ecological costs attached to the traditional lawn, that go beyond the \$\$ cost of labor, fertilizer, pesticides, water, fuel and machinery.

We've known for some time that lawn mowers spew out as much air pollution as a car (no anti-emissions equipment). We've seen reports that the run-off of pollutants from fertilizer and pesticides on lawns is comparable on an acre basis with agricultural land. Now we learn that there are ecological costs of lawns that don't come out of our wallet, and so have gone largely un-noticed.

The vast majority of American lawns are composed of imported (non-native) cool-season and warm-season perennial grasses.

Most of the lawn acreage in the upstate Carolinas is tall fescue, a cool-season grass from Europe.

Lawns in the midlands and low country are predominantly imported warm-season species like bermudagrass, bahiagrass, St. Augustine or Zoysia.

These grasses are used because they are tolerant of the frequent, close mowing that is required to maintain the tidy look of a lawn. Most native species will not persist nearly so well under weekly mowing to 2 inches or less. But because of the stresses of mowing, even these mowing-tolerant grasses have to be fertilized, watered and treated

with pesticides to maintain them in good health.

Environmental costs of traditional lawns

The ecological costs that we are learning about now have to do with how landscape ecosystems function. A healthy ecosystem includes soils, microbes, plants, insects, mammals and birds, all in balance with each other. Increasing the biodiversity in a landscape can have far-reaching positive effects.

We are also learning now that native plants, in particular, function in a balanced fashion with other members of the ecosystem. Ecosystems with predominantly native plants will host more butterflies, moths and other insects, which provide food for nesting birds. Neatly trimmed lawns of introduced grasses are almost totally free of insect "fodder" for songbirds.



So when we reduce the lawn component of our landscapes, we are increasing the habitat value for butterflies, songbirds and other wildlife.

We can reduce the component of introduced grass lawn in our landscapes in two ways:

We can replace lawn area with native trees and shrubs, along with beds and meadows of native grasses and wildflowers.

Secondly we can modify our lawn by incorporating certain native grasses and forbs and modifying our lawn management practices.

More sustainable landscapes

Replacing traditional lawn with native trees, shrubs, beds and meadows will give a much more bio-diverse landscape. This will reduce the area that needs to be mowed weekly.

Emerging research (see *Bringing Nature Home*, by Douglas Tallamy) indicates that there will be more moth and butterfly species coming around. As a result, there will be more insect larvae for songbirds to harvest to feed their nestlings.

Our landscape can become a large "self-filling bird feeder" that will increase the numbers and diversity of songbirds over the whole year.

(Seed-filled bird feeders provide food for adult and migrating songbirds, but provide little to no nourishment for the nestlings.)

Incorporating native plants into lawns and meadows

Using native grasses and forbs in modified lawn settings has real possibilities for Carolinas landscapes. But some compromises will have to be made to retain natives in lawn-like settings. A few native grasses and forbs can tolerate fairly frequent mowing, like in highway

medians. Other natives can persist if mowing height is increased to 4-5 inches.

Table 1 lists the more mowing-tolerant natives that can have potential to mimic fairly closely the traditional lawn.

Table 2 lists species that work well together in native grass – wildflower meadows. All of the native species listed in these tables are perennials.

As with most native species, fertilizer should be used sparingly if at all. Water should be applied sparingly as well, particularly after the plants are established. Too much water and fertilizer will shorten the life of the natives and encourage weeds.

Seeds of many of the species in these lists are not available yet in the commercial seed trade. That's just as well, as you probably should try only small patches of these species in your lawn setting to make sure you are happy with the look. If you try small patches, be sure not to mow your test patches while mowing the rest of your lawn closely. Follow the mowing suggestions in the tables.

Mixed grass-wildflower meadows can get too tall and leggy in wetter-than-normal growing seasons. You can make them grow back shorter by mowing (or weed-whacking) them at a 6 to 8 inch height in mid-June to mid July. This can cause renewed blooming as a side benefit.

— Bill Stringer

Table 1. Species that persist under somewhat relaxed mowing management

(Mow 2 – 3 inches high at intervals of 3 – 4 weeks.)

Warm-season grasses (brown off in winter)

Carpetgrass – *Axonopus fissifolius*
Broomsedge bluestem – *Andropogon virginicus*
Splitbeard bluestem – *Andropogon ternarius*
Little bluestem – *Schizachyrium scoparium*
Beaked panicum – *Panicum anceps*
Purpletop – *Tridens flavus*

Cool-season grasses (remain somewhat green during winter)

Silky oatgrass – *Danthonia sericea*
Poverty oatgrass – *Danthonia spicata*
Needlegrass – *Piptochaetium avenaceum*
Panic grass – *Dichanthelium commutatum*

Native forbs (species with wildflower-like blooms)

Creeping lespedeza – *Lespedeza repens*
Spiked hoarypea – *Tephrosia spicata*
Grass-leafed aster – *Pityopsis graminifolia*
Blue-eyed grass – *Sisyrinchium angustifolium*

Table 2. Species suitable for grass-forb meadows (2 – 3 feet tall)

Grasses

Broomsedge bluestem – *Andropogon virginicus*
Splitbeard bluestem – *Andropogon ternarius*
Little bluestem – *Schizachyrium scoparium*
Beaked panicum – *Panicum anceps*
Purpletop – *Tridens flavus*
Silky oatgrass – *Danthonia sericea*
Needlegrass – *Piptochaetium avenaceum*

Native forbs (species with wildflower-like blooms)

Whorled coreopsis – *Coreopsis major*
White false indigo – *Baptisia albescens*
Goats rue – *Tephrosia virginiana*
Purple-faced sunflower – *Helianthus atrorubens*
Slender lespedeza – *Lespedeza virginica*
Long-bract wild indigo – *Baptisia bracteata*
Late purple aster – *Symphotrichum patens*
Butterfly milkweed – *Asclepias tuberosa*
Clasping milkweed – *Asclepias amplexicaulis*
Leadplant – *Amorpha herbacea*