



AGRONOMY AND SOILS SERIES

TIMELY INFORMATION

Agriculture & Natural Resources

DEPT. OF AGRONOMY & SOILS, AUBURN UNIVERSITY, AL 36849-5633

S-06-05

November, 2005

Soil Associations and Plant Selections for Montgomery-Prattville-Wetumpka Area

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Urban development in parts of Montgomery, Autauga, and Elmore Counties in Central Alabama has occurred on a diversity of soils unlike any other region of the South. Soils in the Montgomery-Prattville-Wetumpka metropolitan area include sandy and loamy upland soils of the Coastal Plain; alluvial terraces and poorly drained floodplains of the Alabama, Coosa, and Tallapoosa Rivers; and alkaline and acid, clayey soils of the Alabama Black Belt prairie region. New residents in homes on these soils may find challenges when selecting landscape plants that will do well on their particular soil. Some may encounter problems with drainage, building foundations, and on-site wastewater disposal. This map and plant selection information may help homeowners and gardeners select the best landscape plants for your site and soil.

Clayey, Alkaline Soils

Soils in this group have a pH above 7.0. They may have a shallow, olive gray, clayey topsoil overlying Selma Chalk. Selma Chalk is a soft, limestone containing calcium carbonate and clay. Runoff can be very rapid on slopes resulting in a high erosion hazard. These soils have moderately slow to slow infiltration and permeability and moderately high capacity for holding available moisture. They swell when wet and shrink when dry resulting in large cracks forming during dry periods. They present problems for septic tank filter fields because they percolate water very slowly but are very good for small pond construction.

Native vegetation includes grasses, deciduous shrubs, red cedar (juniper) and mixed hardwood trees. Trees other than red cedars do poorly on sites where the chalk is within 12 inches of the surface. Pines do not grow well on these soils. Trees that do well include eastern red cedar, live oak, white oak, pecan, ash, hackberry, crabapple, redbud, and crape myrtle. Bermudagrass is an excellent lawn grass for sunny areas. Zoysia and St. Augustine will tolerate some shade. In the landscape, avoid acid-loving plants such as azalea, blueberry, hydrangea, gardenia, camellia, and centipede grass. Landscape plants that do well include most junipers, ornamental grasses, Chinese hollies, yaupon hollies, nandina, euonymus, ligustrum, wax myrtle, oleander, eleagnus, buddleia, and winter honeysuckle. Raised beds aid drainage and prevent drowning of young plants during wet weather.

Clayey, Acid Soils

These soils have a natural pH below 7.0. There may be several feet of acid, clayey soil overlying alkaline Selma Chalk bedrock. For garden vegetables and some ornamentals, ground

agricultural limestone may be needed if the soil pH is below 5.5. These soils have slow water infiltration and slow permeability but a high water-holding capacity. They may be very sticky during wet weather. Like the clayey-alkaline soils, they may swell in wet weather and shrink in dry weather, forming large cracks. These soils present problems for septic tank filter fields and structural foundations but are well suited to pond construction.

Plants such as azalea that have a shallow root system and require well drained soils do not grow well on these soils. All warm-season, perennial turf grasses grow well. Pine trees will grow on the better-drained sites but live oaks, white oaks, red oaks, pecans and other deciduous trees make better landscape trees. Most landscape plants and gardens benefit from raised beds.

Loamy, Well Drained Soils

These soils are naturally acid and will require ground limestone and fertilizing according to a soil test for most landscape plants and garden crops. A reddish-orange subsoil color is one indication of a well drained soil. Surface soils could be very sandy to clayey but all are low in soil organic matter and benefit from generous and frequent applications of organic matter, compost, and mulches. These soils have many uses with low risk of erosion, leaching, or structural failure. They have no limitations or only slight limitations for small structures, streets, landscaping, and septic tank filter fields.

Most landscape and garden plants associated with the southern United States will grow well if properly cultivated. Acid-loving plants requiring a well drained soil do well with reasonable management. These plants include azalea, blueberry, camellia, gardenia, hydrangea, centipedegrass, magnolia and pine trees.

Poorly Drained Soils

These soils are mostly level and may range from sandy to clayey. They can be saturated for long periods of time. Therefore, excessive wetness limits the use of these soils. . Most are in the flood plains of major rivers and streams. Development is discouraged on these soils because they provide an important environmental function as riparian buffer areas and excellent habitat for wildlife. Drainage is required for most uses other than woodland and wildlife habitat. Where development has occurred, problems could develop with septic tank filter fields. Traditional gardens should be planted on raised beds where possible. Because of a limited root system, traditional landscape plants may actually suffer from short-term droughts more severely than on better drained soils.

Mixed Acid and Alkaline Soils

These are small areas with mixed soils of the first three groups. The nature of a soil at any location may be identified by digging a hole about 3 feet deep and observing changes in the soil horizons (layers). A surface soil test will determine if the soil is acid (pH<7.0) or alkaline (pH>7.0). Consulting a detailed soil map of Montgomery, Autauga, or Elmore County may be helpful for large tracts of land.

Unclassified Land

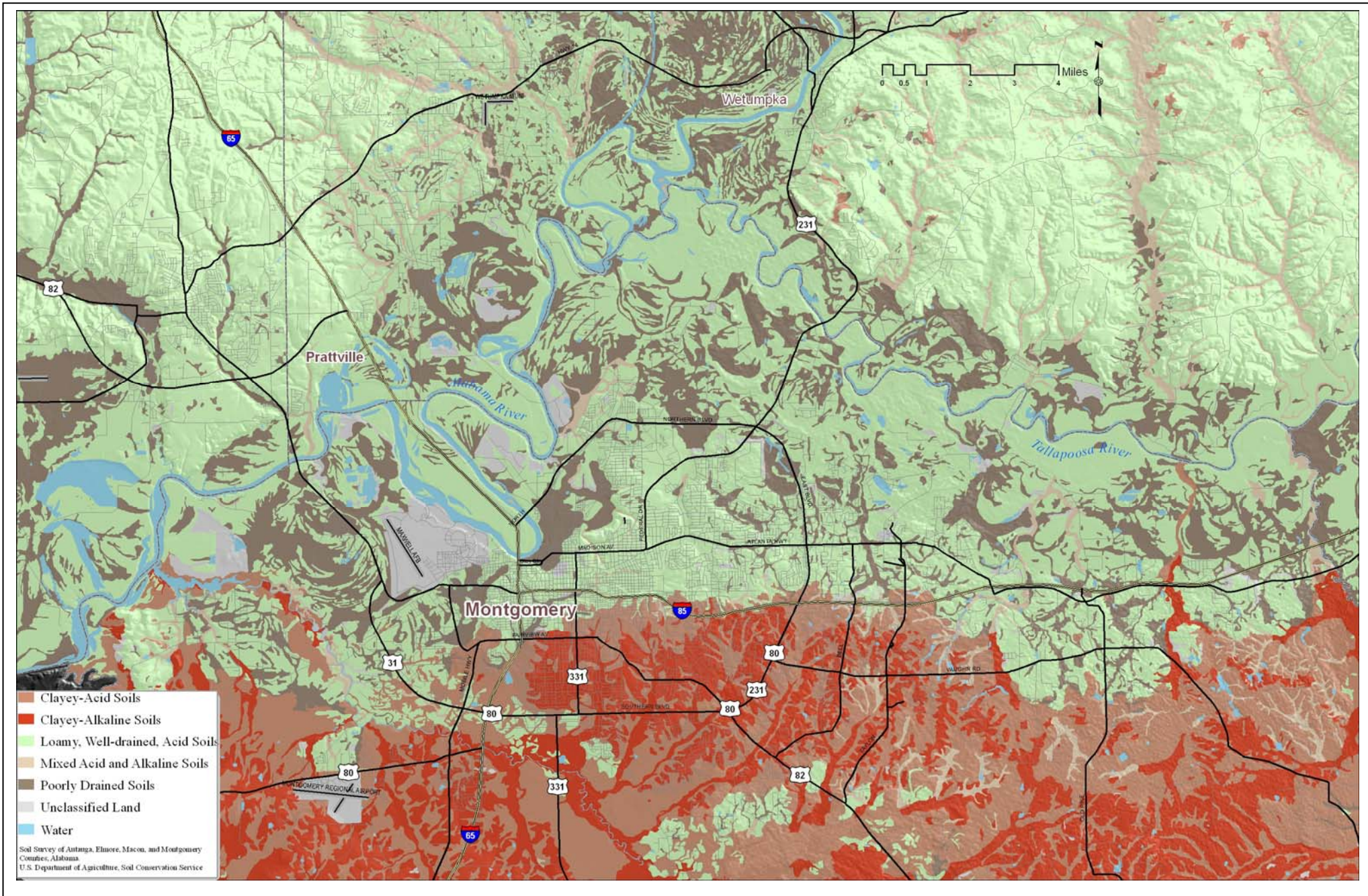
These are government properties, disturbed land, or other areas that have not been mapped and are not available for development.

For more detailed information, contact your local county office of the Alabama Cooperative Extension System:

Montgomery Co. office: phone 334-265-0233

Autauga Co. office phone: 334-361-7273

Elmore Co. office phone: 334-567-6301)



A map of the Montgomery, Alabama, region including parts of Prattville and Wetumpka with major soil association groups identified by color. Refer to the text for soil information and plant selections.