Both trees grow in pure stands as well as with other species. Baldcypress is most commonly associated with both water tupelo (*Nyssa aquatica*), primarily in river swamps, and swamp tupelo, also called black gum (*Nyssa sylvatica* var. *biflora*). It also grows with red maple (*Acer rubrum*), ashes (*Fraxinus* spp.), sweetgum (*Liquidambar styraciflua*), oaks (*Quercus* spp.), and southern pines (*Pinus* spp.). Pondcypress usually occupies isolated ponds, which are particularly common in Florida and Georgia, and it often occurs in standing water on the edges of large swamps. Swamp tupelo is the most common tree in the subcanopy of cypress ponds, and several species of pines and a variety of hardwoods occur on hummocks and along the shallow edges.

In the Big Cypress National Preserve in southwest Florida, the largest and fastest-growing cypress trees grow in deep peat (up to 2 meters, or 6 feet), and pondcypress trees are most common in shallower, mineral soils (Duever et al., 1986). Cypress generally grows best on moderately well-drained, moist, deep, fine sandy loams, but hardwood species usually outcompete cypress on well-drained soils. In addition, well-drained soils may not provide enough moisture for germination of cypress seeds; the best seedbeds for cypress are sphagnum moss or soft, wet muck (Mattoon, 1916). Consequently, cypress is usually restricted to very wet mucks, clays, and fine sands (Langdon, 1958).

Productivity

Very few measurements of productivity have been made in cypress swamps. Gross primary productivity (the rate of photosynthesis) and aboveground net primary productivity (increase in biomass, such as wood and new leaves) are directly related to both water flow rates and nutrient fluxes (Table 2) (Brown, 1981). Productivity is highest in river swamps, which receive periodic inflows of water and nutrients. It is intermediate in stillwater swamps, such as ponds and the long, slowly flowing swamps called strands; these swamps are dominated by pondcypress. Productivity is lowest in dwarf cypress savannas, where nutrient storages and inflows are barely perceptible (Brinson et al., 1981; Brown, 1981).

Although Florida cypress swamps may store substantial amounts of nutrients in peat, acidity reduces nutrient availability (Dierberg and Brezonik, 1984). Cypress trees in these types of swamps respond to increased nitrogen and phosphorus levels with increased tree growth rates (Nessel et al., 1982; Lemlich and Ewel, 1984). Growth rates in Florida cypress domes and strands are equivalent to those in mature north Florida slash pine plantations (Gholz and Fisher, 1982). Although slash pines grow faster in diameter than cypress trees, stem density and height of cypress trees are usually greater.

Table 2. Rates of gross and net primary productivity (grams of carbon per m^2) in Florida cypress swamps

Swamp	Daily Gross Primary Productivity	Annual Net Primary Productivity: Litter Fall	Annual Net Primary Productivity: Stem Growth	Annual Net Primary Productivity: Total
South Florida dwarf cypress savanna[1]	2	110	20	130
North Florida cypress domes[2]	7	170-240	220-270	410-510
South Florida cypress strands[3]	7	300-360	90-410	450-770
North Florida river swamps[4]	14	290-400	170-540	840

[1]Flohrschutz, 1978; Brown 1981
[2]Mitsch and Ewel, 1979; Deghi et al., 1980; Brown, 1981; Dierberg and Ewel, 1984
[3]Burns, 1984; Duever et al., 1984
[4]Mitsch and Ewel, 1979; Brown, 1981; Elder and Cairns, 1982; Richardson et al., 1983