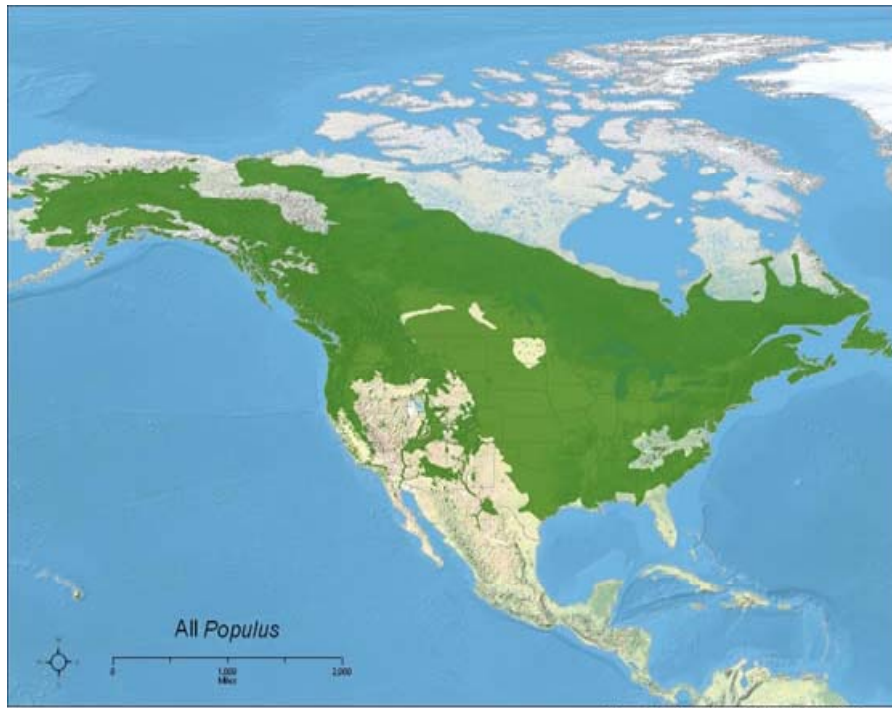
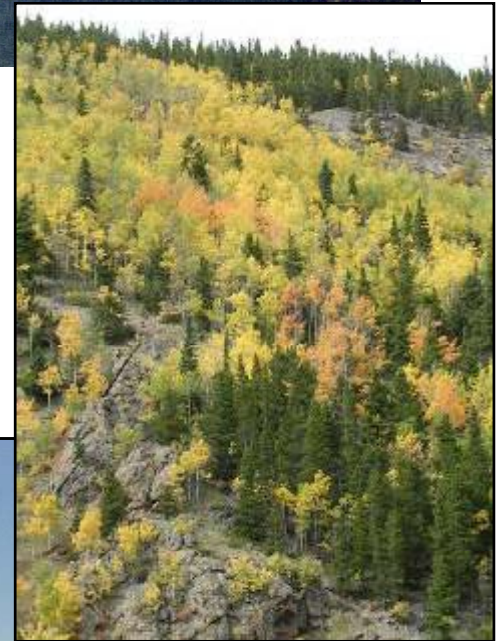


Populus (poplars, aspens, cottonwoods)

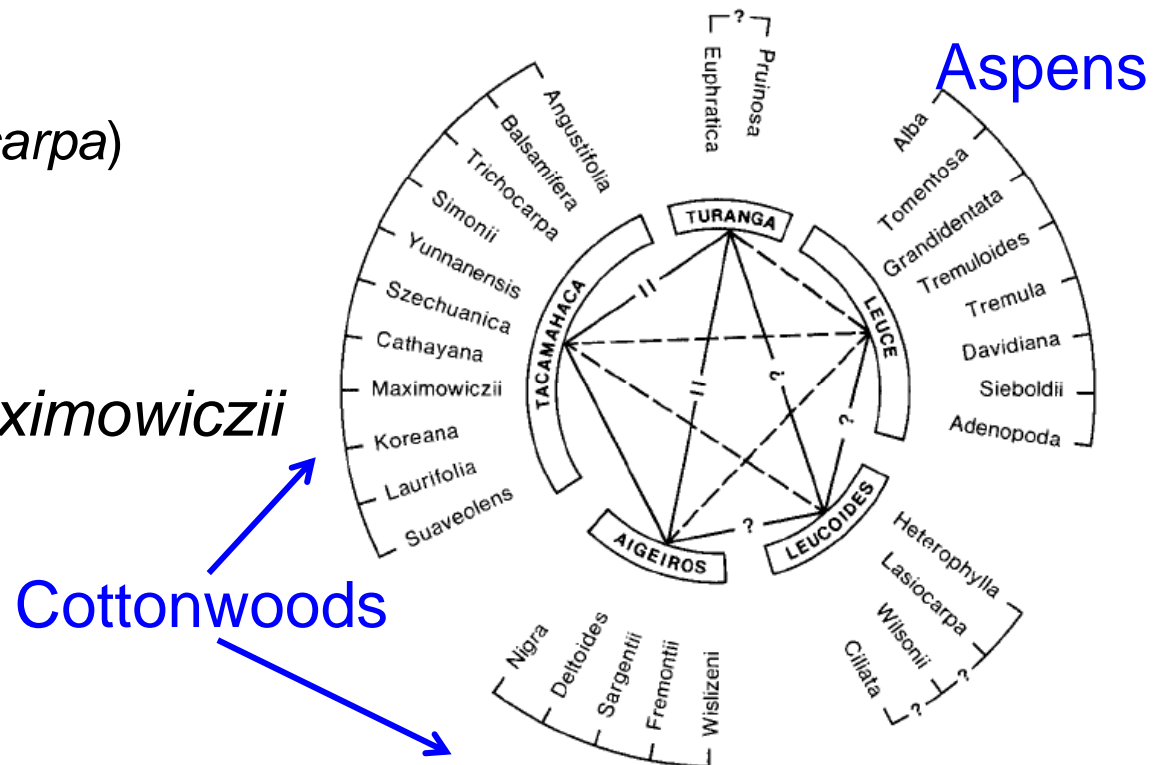
- Distributed throughout the N. hemisphere
- ~30 species



Map created by Meghan Woods, GIS Analyst, Sariborn Map Company

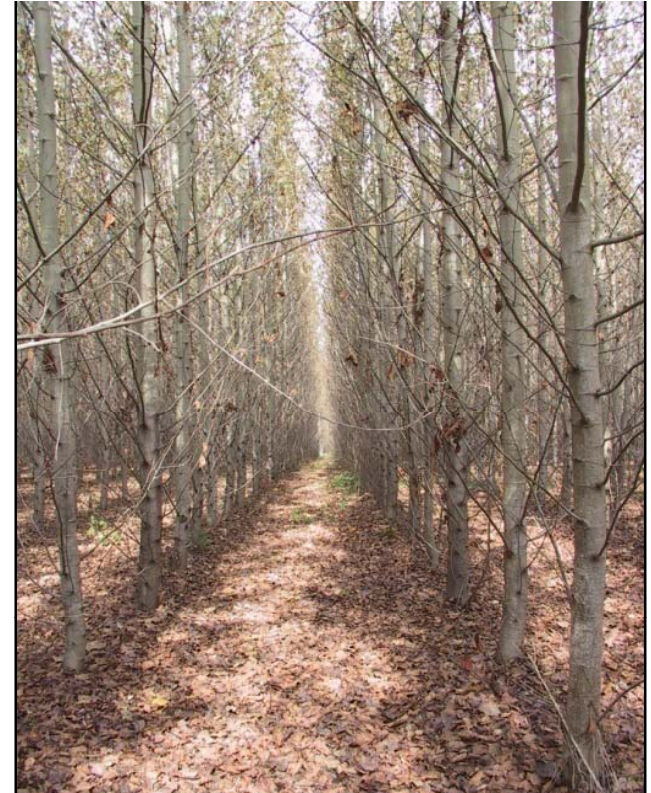
U.S. programs

- *Populus trichocarpa* (Black cottonwood)
- *Populus deltoides* (Eastern cottonwood)
- *Populus nigra* (Black poplar)
- *Populus maximowiczii* (Asian poplar)
- Hybrid combinations
 - *P. x generosa*
(*P. deltoides* x *P. trichocarpa*)
 - *P. x canadensis*
(*P. deltoides* x *P. nigra*)
 - *P. deltoides* x *P. maximowiczii*

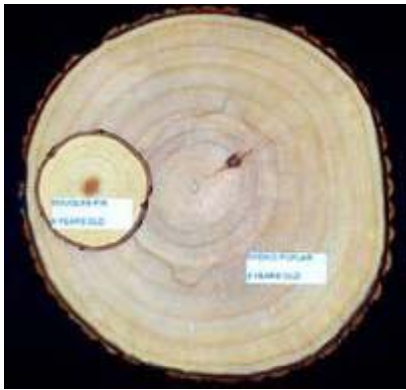


Versatile Crop

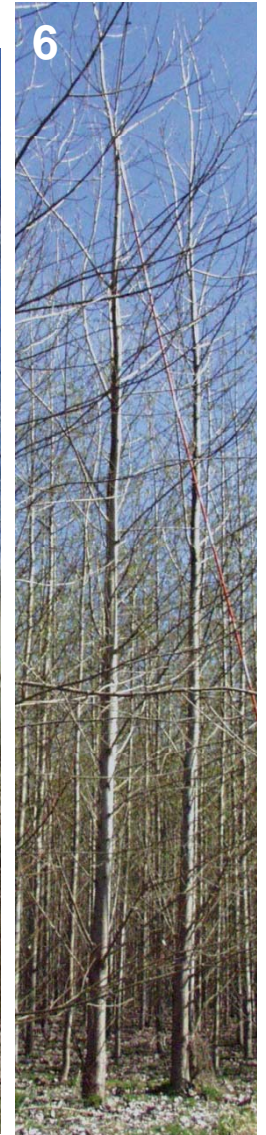
- Pulp
- Solid wood products
- Dedicated energy feedstock
 - 2,200 stems/acre for 2-year coppiced rotations
- Environmental remediation



Early Rapid Growth

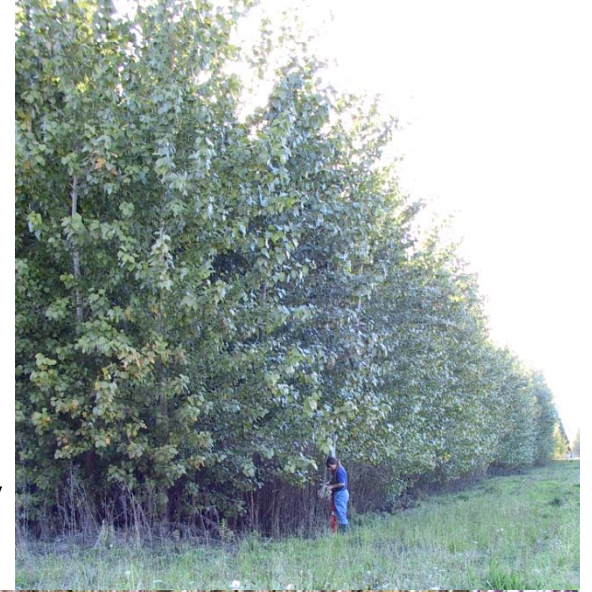


P. x generosa clone 15-29



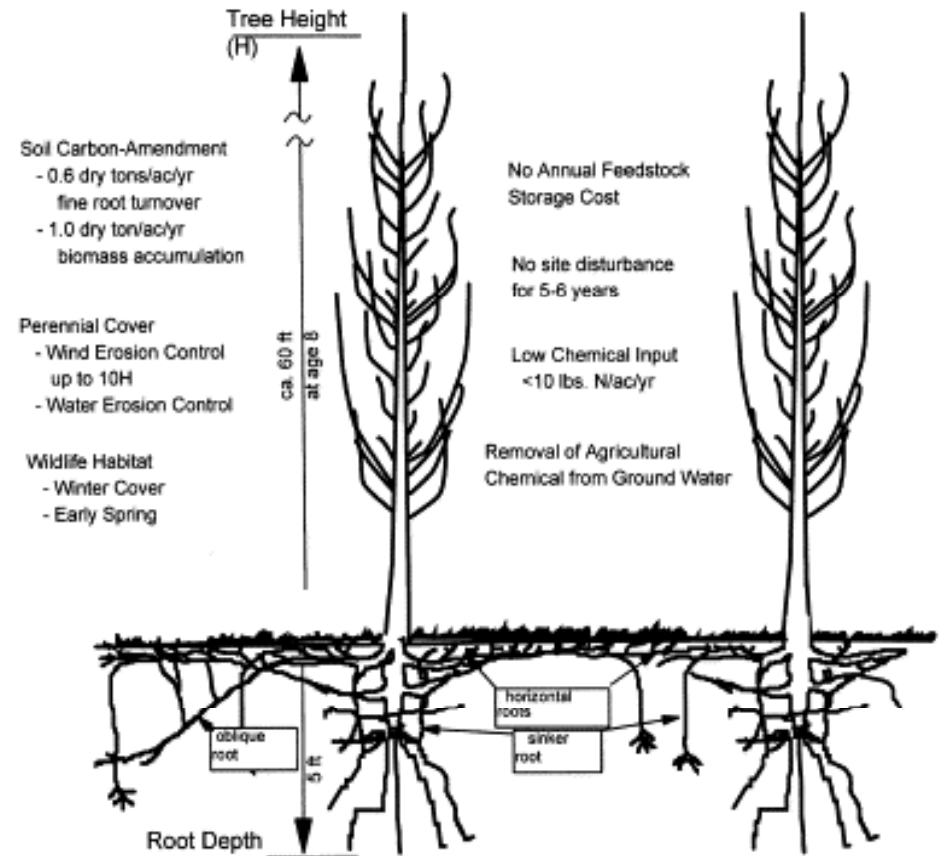
Current Poplar Plantation Acreage

- Europe: 2.8 million acres
- China: 1.9 million acres
- USA: 84,500 acres
 - Lower Mississippi River Valley
 - Central/North Central
 - Pacific Northwest
- Canada: 27,223 acres



Poplar as U.S. Bioenergy Crop: The Beginning

- 1973: OPEC oil embargo
- 1977: DOE Biomass Feedstock Development Program
 - Perennial crop focus
 - 1978: Poplar & other woody crop research
 - 1992: Poplar chosen as model energy crop
 - 2004: DOE-JGI releases Poplar genome sequence

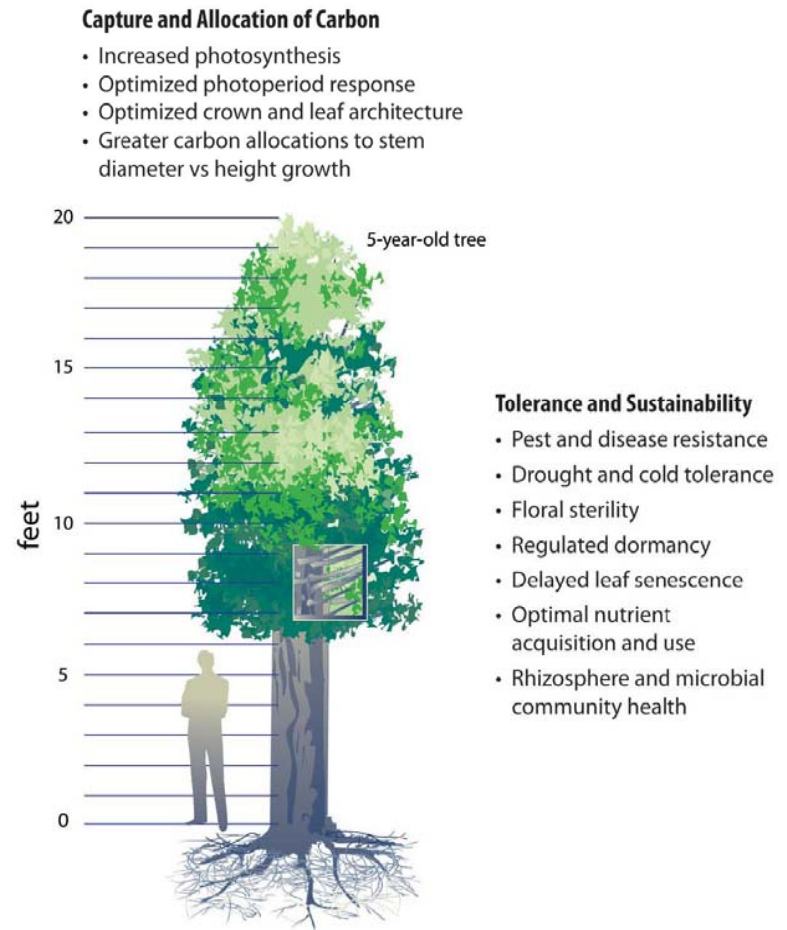


Tuskan 1999

- Dedicated cellulosic energy crops must be developed & tested regionally
- Poplar advantage: Leverage experience & genetic resources developed elsewhere
- Need accelerated domestication for biomass production
- Poplar advantage: Molecular tools & genomic resources developed

Biomass

- Controlled and readily processable cellulose, hemicellulose, and lignin
- Tailored biomass composition with value-added chemicals
- Enhanced biomass production per acre by manipulation of photomorphogenic responses

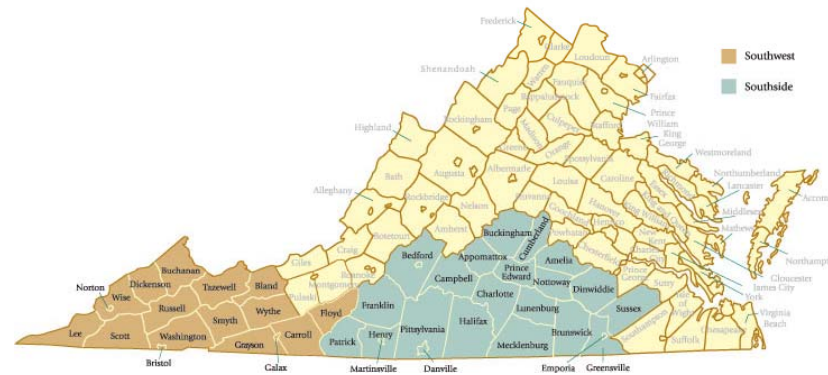


U.S. Department of Energy

Hybrid Poplar Breeding & Testing in Virginia



Tobacco Commission Counties
Southside and Southwest



Windy
Acres
Nursery

Powell River Project site

Sept. 11, 2009

Planted May 1, 2009



Gretna, VA site

Planted July 1, 2008
Coppiced April 1, 2009
Photo: September 24, 2009

