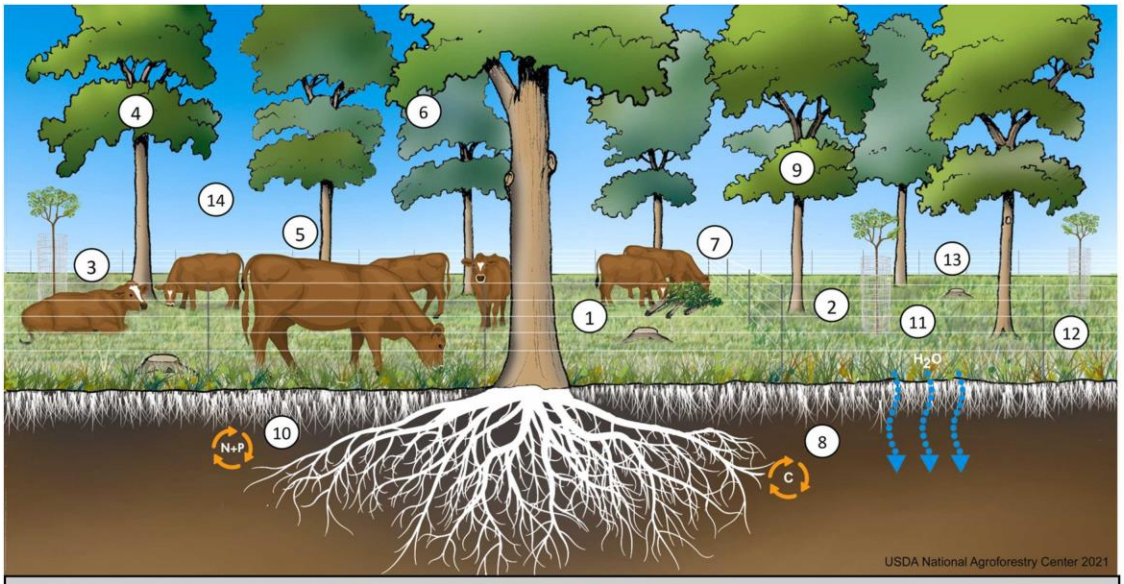

Key	Component	Summarized primary effects	Key references
1	Forage	Microclimate modification can maintain or enhance forage yield and quality compared to open pasture depending on species and management.	Buergler et al. (2006), Ford et al. (2019b), Fannon et al. (2019), Orefice et al. (2019), Pang et al. (2019a, 2019b)
2	Forage	Potential for extending forage growing season and yields due to microclimatic modification in droughty summer months and reducing radiation frosts in early and late season.	Frost and McDougald (1989), Feldhake (2002), Kallenbach et al. (2006), Coble et al. (2020)
3	Livestock	Shade reduces solar radiation and heat stress which can enhance animal productivity.	Karki and Goodman (2010), Schütz et al. (2014), Van laer et al. (2014), Pent et al. (2020b, 2021)
4	Livestock	Shelter from trees can offer thermal protection for livestock during winter by reducing wind and precipitation reaching sheltering animals.	Van laer et al. (2014, 2015), He et al. (2017)
5	Livestock	Livestock weight gain in silvopastures can be comparable to that of livestock grazed in open pastures depending on species and management.	Kallenbach et al. (2006), Ford et al. (2019b), Pent et al. (2020a)
6	Tree	Trees in silvopasture can produce products to increase enterprise diversification. Tree growth can benefit from nutrient input but may be negatively impacted by livestock if not adequately managed.	Ares et al. (2006), Broughton et al. (2012), Bruck et al. (2019), Pent 2020
7	Tree	Leaf fodder and mast (e.g., acorns, honey locust pods, apples) can augment livestock diets and offer nutritional value depending on species.	Moreno et al. (2018), Vandermeulen et al. (2018), Pent and Fike (2019), Hassan et al. (2020), Seidavi et al. (2020)
8	Ecosystem service	Soil carbon storage is increased at various soil horizons and depths when converting from open pasture to silvopasture but may decrease when converting from forest.	Haile et al. (2008, 2010), Baah-Acheamfour et al. (2014, 2015), De Stefano and Jacobson (2018)
9	Ecosystem service	Soil and biomass carbon sequestration is generally higher in silvopasture than open pasture but may be lower than forests.	De Stefano and Jacobson (2018), Lal et al. (2018)
10	Ecosystem service	Silvopasture can enhance nutrient recycling and reduce phosphorus loss and nitrate leaching when compared to open pasture.	Michel et al. (2007), Bambo et al. (2009), Boyer and Neel (2010), Nyakatawa et al. (2012)
11	Ecosystem service	Infiltration rates are similar or slightly higher in silvopasture than open pasture but lower than forests.	Sharrow (2007), Moreno et al. (2018) Stewart et al. (2020)
12	Ecosystem service	Silvopasture can increase biodiversity compared to open pastures but may be less than diverse natural forests.	Burgess (1999), Mcadam et al. (2007) Torralba et al. (2016), Moreno et al. (2018)
13	Ecosystem service	Grazing and woodland management in silvopasture systems may reduce fuel load and wildlife risk.	Ruiz-Mirazo and Robles et al. (2012), Palaiologou et al. (2020), Damianidis et al. (2021)
14	Ecosystem service	Silvopasture may provide cultural ecosystem services including sense of place, aesthetic value, recreation and ecotourism, and cultural heritage value.	Fagerholm et al. (2016), Moreno et al. (2018)