

Sunn hemp is a tropical legume that is being widely used in the Southern region. It grows quickly and can fix substantial amounts of nitrogen. It can be planted in the late summer and provide a quick high biomass, high nitrogen cover crop. There are reports that some varieties are poor hosts for root knot, soybean cyst, reniform as well as other plant parasitic nematodes. Small-scale growers should make sure to have a plan to manage the large amount of biomass. While the cost of seed used to be prohibitive, production has increased significantly and the cost has come down in recent years.

Recommended Varieties

Variety	Reasons Why	Source
AU Golden	Lower dry matter production, grows to about 5 feet and blooms.	Jimmy Carter Plant Materials Centers data
Tropic Sun	Extremely high dry matter production, can grow to 10 feet. Plants are woody when allowed to get that mature.	Jimmy Carter Plant Materials Center data, Managing Cover Crops Profitably
Common sunn hemp	High biomass production, can grow to 8 feet.	Jimmy Carter Plant Materials Center data

Planting Information

Information	Comments	Source
Drilled Seed Depth (inches)	½ - 1	Southern SARE Oklahoma Fact Sheet
Drilled Seeding Rate (lbs/acre)	20 - 40 Use <i>Bradyrhizobium</i> spp. inoculant. Higher seeding rate tends to keep stem size smaller and produces less branching.	ARS Fact Sheet
Broadcast Seeding Rate (lbs/acre)	Increase drilled rate by 25 %	Southern SARE Oklahoma Fact Sheet

Termination Information

Information	Source
Most vegetable farmers use mowing and incorporation for termination. Flail mowers provide the finest residue and most even distribution, but rotary mowers can be used. Given the size of this cover crop and woody stems, weed eaters and push mowers will not likely be an option for small scale farmers. Residue should be incorporated as soon after mowing as possible. Leave at least 2-3 weeks for residue to decompose before planting. Legumes typically decompose quickly and most of the nitrogen is released within 1 month after incorporation; however, sunn hemp will decompose slower than most legumes due to wood stems. Decomposition is greater in moist, warm conditions. If the soil is dry then irrigation may be necessary. Cool soils conditions will lengthen time needed before planting.	Southern SARE Oklahoma Fact Sheet, USDA Sunn Hemp Plant Guide
Sunn hemp will winterkill, but stems may be woody and slow to decompose if plants are mature when frost occurs	

Cultural Traits

Traits		Comments	Source
Typical Dry Matter Range (lbs/acre)	5,000 – 8,000	High end of range is Tropic Sun.	Jimmy Carter Plant Materials Center data, Unpublished Literature Review in Piedmont – Gaskin
Typical Total N Range (lbs/acre)	100 - 200		Unpublished Literature Review in Piedmont – Gaskin
Life Cycle	Warm season annual legume		
Growth Habit	Upright		
Preferred Soil pH	6.0 – 7.0		USDA Sunn Hemp Plant Guide
Relative Costs (\$/acre)	\$\$\$\$		Based on survey of seed costs using maximum price and max seeding rate
Min. Germination Temp (F)	50° is min, 68° is ideal for best germination		Southern SARE Oklahoma & Florida Fact Sheets
Cautions	Can get very woody if left to get 7 to 8 foot tall. Nitrogen in the woody, high lignin biomass is very slow to be released after short burst from leaves. Very high biomass can impede planting of next crop. Can be susceptible to Fusarium wilt and anthracnose. Common pests are sunn hemp moth, pod borers, and stink bugs. Only use as cover crop in a field every 3 years to avoid pest and diseases.		

Sources:

ARS Fact Sheet:

<https://iapreview.ars.usda.gov/SP2UserFiles/Place/60100500/FactSheets/FS04h.pdf>

Jimmy Carter Plant Materials Center Annual Reports:

https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ga/plantsanimals/?cid=nrcs144p2_022076

Managing Cover Crops Profitably: <https://www.sare.org/Learning-Center/Books>

Southern SARE Oklahoma Fact Sheet:

<https://www.southernsare.org/Educational-Resources/SARE-Project-Products/Fact-Sheets/Using-Sunn-Hemp-as-a-Cover-Crop-in-Oklahoma>

University of Florida Fact Sheets:

<http://edis.ifas.ufl.edu/tr003>

<http://edis.ifas.ufl.edu/ng043>

USDA Sunn Hemp Plant Guide:

https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/njpmcpg11706.pdf