

Cowpeas have long been grown in the Southern region and are a useful summer legume cover crop. They are fast growing with a long tap root that is excellent for erosion control. They are heat and drought tolerant legumes that are adapted to a range of soils, but do not do well in very wet conditions. Some varieties tend to vine and can be difficult to terminate with mowing without heavy equipment. They work well in mixtures by filling in gaps of other upright summer cover crops to suppress weeds as well as supplying nitrogen. The varieties used for cover cropping are typically much less expensive than those used for cash crops.

Recommended Varieties

Variety	Reasons Why	Source
Iron and Clay	Nematode resistance, combines semi-bushy and viney plants, 90 days to maturity.	Jimmy Carter Plant Materials Center data, Managing Cover Crops Profitably
Chinese Red	Good biomass, bushy plants, earlier maturing than Iron and Clay at 45 – 50 days.	Jimmy Carter Plant Materials Center data, Managing Cover Crops Profitably
Red Ripper	Good biomass, bushy plants, earlier maturing than Iron and Clay at 45 – 50 days.	Jimmy Carter Plant Materials Center data, Managing Cover Crops Profitably
Ace	Nematode resistance, semi-bushy growth, high biomass yield. Small seeded variety of forage cowpea for forage and cover cropping systems. 90-100 days maturity.	Texas A&M AgriLife Research Overton, Texas

Planting Information

Information	Comments	Source
Drilled Seed Depth (inches)	1 - 2	Managing Cover Crops Profitably
Drilled Seeding Rate (lbs/acre)	30 - 90 Use <i>Bradyrhizobium</i> spp. inoculant There are a wide range of seeding rates reported. In pure stands, most common seeding rates is 50 - 60 lbs/acre.	ARS Fact Sheet, Managing Cover Crops Profitably
Broadcast Seeding Rate (lbs/acre)	80 - 100 Not a preferred method unless timely moisture is available for stand establishment. The relatively large seed does not germinate and persist well without some soil coverage.	ARS Fact Sheet, Managing Cover Crops Profitably

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Termination Information

Information	Source
<p>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. Small scale farmers can use weed-eaters on smaller beds. Residue should be incorporated as soon after mowing as possible. Leave at least 2 weeks for residue to decompose before planting. Legumes decompose quickly and most of the nitrogen is released within 1 month after incorporation. 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.</p> <p>Some varieties may produce hard-seed; consequently, cowpeas should be terminated at bloom.</p>	<p>Managing Cover Crops Profitably, USDA Cowpea Plant Guide</p>

Cultural Traits

Traits	Comments	Source
Typical Dry Matter Range (lbs/acre)	4,500 - 7,000	Jimmy Carter Plant Materials Center data, Managing Cover Crops Profitably, Unpublished Literature Review in Piedmont – Gaskin
Typical Total N Range (lbs/acre)	120 - 175	ARS Fact Sheet, Unpublished Literature Review in Piedmont – Gaskin
Life Cycle	Warm season annual legume	
Growth Habit	Bushy or viney depending on variety	Iron and Clay are bushy early then sprawl out.
Preferred Soil pH	6.0 - 7.0	Midwest Cover Crops Council Selector Tool
Relative Seed Cost (\$/acre)	\$\$\$\$	Based on survey of seed costs using maximum price and max seeding rate
Min. Germination Temp (F)	65°	ARS Fact Sheet
Cautions	Consider using in a mix with annual summer grass such as sorghum sudangrass or millets due to low C:N ratio. Use nematode-resistant varieties if there is history of root-knot nematode problems. The Cowpea curculio (<i>Chalcodermus aeneus</i>) is a serious pest of commercial cowpeas and will also survive in cowpea planted as a cover crop if it is allowed to grow past flowering.	Clemson University; University of Georgia

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Sources:

ARS Fact Sheet:

<https://iapreview.ars.usda.gov/SP2UserFiles/Place/60100500/FactSheets/FS04p.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>

Midwest Cover Crop Council Selector Tool - Missouri Data:

<http://mccc.msu.edu/covercroptool/covercroptool.php>

USDA Cowpea Plant Guide:

https://plants.usda.gov/plantguide/pdf/pg_viun.pdf