Cowpea (*Vigna unguiculata*)

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.

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 *Bradyrhizobium* 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. May consider drag or mowing of prior crop residues to aid in seed soil contact. The relatively large seed does not germinate and persist well without some soil coverage.	ARS Fact Sheet, Managing Cover Crops Profitably
Aerial Seeding Rate (lbs/acre)		Not preferred method.	USDA Cowpea Plant Guide

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Termination Information

Information	Source
Cowpeas can be terminated by mowing if shallow tillage is also used. Herbicides can be used. Controlled grazing or roller crimper can also be used. It is common to use a combination of methods to achieve optimum results. Historically, cowpeas volunteered in row crop and systems. Some varieties may produce hard-seed; consequently, cowpeas should be terminated at bloom. Consult your local Extension and state Pest Management Handbook for herbicide recommendations. Always follow the herbicide label.	Managing Cover Crops Profitably, USDA Cowpea Plant Guide

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)	140 - 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. Cow peas lack persistent residue for soil health benefits throughout the growing season. Can be hard-seeded or set seed to become a weed, but could be controlled with herbicides. Risk of susceptibility to Sclerotinia and Sclerotium rolfsii (*Athelia rolfsii*). Do not plant before legume cash crops or hemp unless fumigating before planting cash crop. Some cultivars of cowpea may be a good host for nematodes, primarily root-knot and reniform nematodes. Consult your local Extension, NRCS, and state Pest Management Handbook.		Clemson University

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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