

Georgia Cover Crop (Code 340) Standard

Appendix I – Planting Annual Cover Crops by Region

Table 1. Annual cool season grasses cover crop. Planting information courtesy of Dr. Dewey Lee, Dept. of Crops and Soil Sciences, UGA, Tifton, Ga. and Dr. Wayne Reeves, formerly USDA-ARS, Watkinsville, Ga..

Species ¹	PLS ² Seeding Rate ⁴ (lb./acre)	Seeding Date ³			Planting Depth
		Mountain Limestone Valleys	Piedmont	Coastal Plain	
Barley	48-96	9/1-11/1	10/01-11/15	10/15-12/1	¾ -1½
Black oats	50-70	No ⁵	10/15- 11/15 ^{6,7}	10/15- 11/15 ^{6,7}	¾ -1½
Oats	64-96	9/1-11/1	9/15-11/15	10/1-11/15	¾ -1½
Rye	56-112	8/15-11/1	9/15-12/1	9/15-12/15	¾ -1½
Triticale	48-96	-	-	10/15- 12/15	¾ -1½
Wheat	60-120	9/15-11/15	10/1-12/1	10/15- 12/15	¾ -1½

^{1,2,3} See footnotes at the end of the document.

⁴ Use the high rate if planting during the second one-half of the recommended window. Otherwise, seed at the lower rate.

⁵ Not recommended for extreme north Georgia.

⁶ Recommended only for the lower Coastal Plain, USDA Plant Hardiness Zones 8b-10a <http://www.usna.usda.gov/Hardzone/ushzmap.html>?. (USDA-ARS-NDSL, 2002).

⁷ Fall planting preferred. Plant from October 15 to November 15. Earlier fall plantings may be more susceptible to frost in January. An early spring planting is a secondary option, in the Coastal Plain (January 25-February 7) or southern edge of the Piedmont (Macon area, February 5-10) if environmental conditions prevent timely fall planting. Use when planting a cash crop, such as vegetables, late in the summer. Personal communication Dr. Wayne Reeves, formerly USDA-ARS, Watkinsville, Georgia.

Table 2. Annual warm season grasses and non-legume broadleaf plants for cover crop. Planting information courtesy of Dr. Dewey Lee, Dept. of Crops and Soil Sciences, UGA, Tifton, Ga..

Species ¹	PLS ² Seeding Rate (lb./acre)	Seeding Date ³			Planting Depth
		Mountain – Limestone Valleys	Piedmont	Coastal Plain	
Buckwheat	50-70	5/15-8/1	5/1-8/1	4/15-8/15	½-1½
Millet, Browntop	20-25	5/15-8/1	5/1-8/1	4/1-8/15	½ -1
Millet, Pearl	20-25	5/15-8/1	4/15-7/15	4/1-7/15	½ -1½
Sorghum- Sudan Hybrids & Sudangrass	20-25	5/1-8/1	4/15-8/1	4/1-8/15	¾ -1½

^{1,2,3} See footnotes at the end of the document.

Table 3. Annual and perennial cool season legumes for cover crop. Planting information courtesy of Dr. Dewey Lee, Dept. of Crops and Soil Sciences, UGA, Tifton, Ga. Except where noted.

Species ¹	PLS ² Seeding Rate ⁴ (lb./acre)	Seeding Date ³			Planting Depth
		Mountain – Limestone Valleys	Piedmont	Coastal Plain	
Clover, Arrowleaf	5-8	9/1-10/15	9/15-11/1	10/1-11/15	0-1/2 ⁴
Clover, Ball	2-3	9/1-10/15	9/15-11/1	10/1-11/15	0-1/4 ⁴
Clover, Balansa ⁵	4-6	9/1-10/15	9/15-11/1	10/1-11/15	1/4-1/2 ⁴
Clover, Crimson	15-20	9/1-10/15	9/15-11/1	10/1-11/15	1/4-1/2 ⁴
Clover, Red	10-15	9/1-10/15	9/15-11/1	10/1-11/15	1/4 -1/2 ⁴
Clover, Subterranean	8-10	9/1-10/15	9/15-11/1	10/1-11/15	1/4-1/2 ⁴
Clover, white	3-4 ⁶	9/1-10/15	9/1-10/15	9/1-10/15	1/4-1/2 ⁴
Lupin, drilled/ broadcast ⁵	60-90/ 75-100	9/5-10/1	9/15-10/1	10/15-11/15	3/4-1
Pea, Austrian Winter	30-40	9/1-10/1	9/15-10/15	10/1-11/1	1-2
Vetch, Cahaba White	15-20	9/1-10/15	9/15-11/1	10/1-11/15	3/4 -1/2
Vetch, Common	30-40	-	-	10/1-11/15	1/2 - 1
Vetch, Hairy ⁷	20-25	9/1-10/15	9/15-11/1	10/1-11/15	1/2 - 1

^{1,2,3} See footnotes at the end of the document.

⁴ Drill small-seeded clovers to obtain a reliable stand. Use a drill with a small seed attachment and place the drop tubes outside the furrow. A drag chain or wide furrow closer will firm or drag soil and debris over the seed. Planting seed directly in the furrow may result in deeper-than-desired placement and reduced stand. Plant the small-seeded clovers at the high rate when broadcasting seeds, but stands may not be as great as when drilling. For large-seeded legumes (lupine through vetch), drill at the lower rate if planting during the first one-half of the planting window, otherwise seed at the higher rate. Broadcast seed only if combined with soil disturbing activity. Inoculate seed with the correct bacteria to enhance fixation if the legume or another specific closely related legume has not been planted previously in the field.

⁵ White lupine is cold tolerant, but blue lupine is not. Seed blue lupine only in the Coastal Plain due to its low tolerance to cold. Dr. Wayne Reeves, formerly USDA-ARS, Watkinsville, Georgia.

⁶ Reproduces by root (perennial) and seed. Unlike other species in the list, the rates for drill or broadcast application are the same.

⁷ Not recommended for rotations with wheat because it sets seed at various times. May also be an issue with other vetches. Ms. Julia Gaskin, Crops & Soil Science Dept., UGA, Athens.

Table 4. Annual warm season legumes for cover crop. Planting information courtesy of Dr. Dewey Lee, Dept. of Crops and Soil Sciences, UGA, Tifton, Ga., except soybean which was provided by Dr. Jared Whitaker, Dept. of Crops and Soil Sciences, UGA, Statesboro, Ga.

Species ¹	PLS ² Seeding Rate (lb./acre)	Seeding Date ³			Planting Depth
		Mountain- Limestone Valleys	Piedmont	Coastal Plain	
Cowpeas	60-90	5/4-6/15	5/1-6/15	4/15-6/1	1-3
Lespedeza					
Korean	25-35	3/1-4/1	2/15-3/15	2/1-3/15	¼-½ ⁴
Striate	25-35	3/1-4/1	2/15-3/15	2/1-3/15	¼-½ ⁴
Velvet bean	30-40	-	-	3/15-5/1	1-3
Soybean	Minimum 140,000 seed/ac (not PLS)	5/15-6/15	5/1-6/15	4/15-6/15	½-1½

^{1,2} See footnotes at the end of the document.

⁴ Use a drill with a small seed attachment and place the drop tubes outside the furrow. A drag chain or wide furrow closer will firm or drag soil and debris over the seed. Planting seed directly in the furrow may result in deeper-than-desired placement and reduced stand.

Sunn hemp

Sunn hemp is a tropical legume. “AU Golden” is the only sunn hemp cultivar breed for production in our area. Higher biomass was produced near Auburn, Alabama following wheat compared to corn indicating the positive effects of early planting. Seed at 15-30 lbs./ac. to reduce summer fallow weeds and provide nitrogen for the subsequent cover crop. (Balcomb, K.S., J.M., Massey, J.A. Mosjidis, A.J. Price and S.F. Enloe. 2011. Planting date and seeding rate effects on sunn hemp biomass and nitrogen production for a winter cover crop. <http://www.hindawi.com/journals/ija/2011/237510/>)

Table 5. Brassicas for cover crops including canola (rapeseed), mustard, radish and turnip for cover crops

Species ¹	Drilling ⁴		Broadcast Rate PLS (lb./ac) ⁴	Soil ⁴ and Climate Conditions
	Rate PLS ² (lb./ac)	Depth (in.)		
Canola	5-10	< ³ / ₄	8-14	<ul style="list-style-type: none"> • Well-drained soil • pH 5.5-8.5 • Plant in September or October⁵
Mustard ⁶	5-12	¹ / ₄ - ³ / ₄	10-15	
Radish ^{6,5}	8-12	¹ / ₄ - ¹ / ₂	12-20	
Turnip ^{6,6}	4-7	¹ / ₂	10-12	

^{1,2,3} See footnotes at the end of the document.

⁴ Clark, A.H., Ed. 2007. Managing Cover Crops Profitably, Third Ed. Sustainable Ag. Network, Beltsville, Md.

⁵ Iversen, K.V.. 2012. Cover Crops for the Southeast: Radish (*Raphanus sativa*). Conservation Sys. Res. Fact Sheet 04q. USDA National Soil Dynamics Lab., Auburn, Ala.. Radish may benefit from even earlier planting in North Georgia according to Philip Brown, Ga. NRCS.

⁶ May be a weed when allowed to seed and followed by row crops

¹Other species may be considered for listing as the need arises.

² PLS represents pure live seed. To calculate PLS, multiply the purity times the germination rate. Then divide the recommended seeding rate by the PLS to get the actual seeding rate.

For example, a bag of rye seed has a purity of 90% and germination of 85%.

- The PLS = $0.90 \times 0.85 = 0.77$. In other words, only 77% of the material in a sack that will germinate.
- Divide the recommended seeding rate of 60 lbs. by 0.77 and get the actual seeding rate of 78 pounds. Plant 78 pounds of the rye seed per acre in order to plant 60 lbs. of pure live seed.

³ A map showing the major land resource areas (MLRAs) that are included in the three crop production areas of Georgia is available

at http://efotg.nrcs.usda.gov/references/public/GA/MLRA_GA_01-03-08.pdf

- Mountain-Limestone Valleys. Blue Ridge, Sand Mountain and Southern Appalachian Ridges and Valleys MLRAs.
- Piedmont. Southern Piedmont MLRA
- Coastal Plain. Southern Coastal Plain, Sand Hills and Atlantic Coast Flatwoods MLRAs.