Table 1

Common Cover Crops Recommended for Planting in Minnesota

SPECIES	FULL SEEDING RATES		PLANTING DEPTH (inches)	CROP TYPE	SEEDING DATES	
	[1]Minimum Seeding Rate in lbs./ac PLS (Incorporated Seed)	[2]Minimum Seeding Rate in lbs./ac PLS (Non-Incorporated Seed)			NORTH OF INTERSTATE 94	SOUTH OF INTERSTATE 94
GRASSES						
SPRING BARLEY*	50 lbs/acre PLS	75 lbs/acre PLS	0.75-1.5	CG	April 15-September 15	April 1-October 1
WINTER BARLEY	50 lbs/acre PLS	75 lbs/acre PLS	0.75-1.5	CG	July 15-October 15	July 15-November 1
OATS*	30 lbs/acre PLS	45 lbs/acre PLS	0.5-1	CG	April 15-September 15	April 1-October 1
ANNUAL RYEGRASS	15 lbs/acre PLS	23 lbs/acre PLS	0-0.5	CG	April 15-September 15	April 1-October 1
WINTER CEREAL RYE†	50/55 lbs/acre PLS	75/83 lbs/acre PLS	0.75-1.5	CG	July 15-October 15	July 15-November 1
WINTER TRITICALE	50 lbs/acre PLS	75 lbs/acre PLS	0.75-1.5	CG	July 15-October 15	July 15-November 1
SPRING WHEAT*	50 lbs/acre PLS	75 lbs/acre PLS	0.75-1.5	CG	April 15-September 15	April 1-October 1
WINTER WHEAT	50 lbs/acre PLS	75 lbs/acre PLS	0.75-1.5	CG	July 15-October 15	July 15-November 1
FOXTAIL MILLET [3]	20 lbs/acre PLS	30 lbs/acre PLS	0.5-1	WG	June 1-August 1	May 15-September 1
JAPANESE MILLET [3]	20 lbs/acre PLS	30 lbs/acre PLS	0.5-0.75	WG	June 1-August 1	May 15-September 1
PEARL MILLET [3]	20 lbs/acre PLS	30 lbs/acre PLS	0.5-1	WG	June 1-August 1	May 15-September 1
PROSO MILLET [3]	20 lbs/acre PLS	30 lbs/acre PLS	0.5-1	WG	June 1-August 1	May 15-September 1
SORGHUM-SUDANGRASS [3]	25 lbs/acre PLS	38 lbs/acre PLS	0.5-1.5	WG	June 1-August 1	May 15-September 1
SUDANGRASS [3]	25 lbs/acre PLS	38 lbs/acre PLS	0.5-1	WG	June 1-August 1	May 15-September 1
NON-LEGUME BROADLEAVES [5]						
BEETS (Non GMO)	3 lbs/acre PLS	5 lbs/acre PLS	0.25-0.5	CB	April 15-September 15	April 1-October 1
CABBAGE	5 lbs/acre PLS	8 lbs/acre PLS	0.25-0.5	CB	April 15-September 15	April 1-October 1
FLAX [3]	30 lbs/acre PLS	45 lbs/acre PLS	0.25-0.75	CB	July 15-September 1	July 15-September 15
KALE	3 lbs/acre PLS	5 lbs/acre PLS	0.25-0.5	CB	April 15-September 15	April 1-October 1
MUSTARD [3]	4 lbs/acre PLS	6 lbs/acre PLS	0.25-0.75	CB	April 15-September 15	April 1-October 1
PHACELIA	5 lbs/acre PLS	8 lbs/acre PLS	0.12-0.25	CB	April 15-September 15	April 1-October 1
RADISH	4 lbs/acre PLS	6 lbs/acre PLS	0.5-0.75	CB	April 15-September 15	April 1-October 1
RAPESEED/CANOLA	2 lbs/acre PLS	3 lbs/acre PLS	0.25-0.5	CB	April 15-September 15	April 1-October 1
TURNIP	1 lb/acre PLS	2 lbs/acre PLS	0.25-0.5	CB	April 15-September 15	April 1-October 1
WINTER CAMELINA	3 lbs/acre PLS	5 lbs/acre PLS	0.12-0.25	CB	July 15-October 15	July 15-November 1
BUCKWHEAT 1/[3]	45 lbs/acre PLS	68 lbs/acre PLS	0.5-1	WB	June 15-August 15	June 1-September 1
SAFFLOWER	25 lbs/acre PLS	38 lbs/acre PLS	1-1.5	WB	April 15-August 1	April 15-August 1
SUNFLOWER	1 lb/acre PLS	2 lbs/acre PLS	1-3.5	WB	June 1-August 1	June 1-August 1
LEGUMES [5]						
ALFALFA [3]	12 lbs/acre PLS	18 lbs/acre PLS	0.25-0.5	CB	April 15-September 1	April 1-September 15

Table 1

Common Cover Crops Recommended for Planting in Minnesota

SPECIES	FULL SEEDING RATES: [1] Minimum Seeding Rate in lbs./ac PLS (Incorporated Seed)	FULL SEEDING RATES: [2] Minimum Seeding Rate in lbs./ac PLS (Non-Incorporated Seed)	PLANTING DEPTH (inches)	CROP TYPE	SEEDING DATES: NORTH OF INTERSTATE 94	SEEDING DATES: SOUTH OF INTERSTATE 94
LEGUMES [5] (continued)						
CHICKPEA	80 lbs/acre PLS	120 lbs/acre PLS	0.25-0.5	CB	June 1-September 1	May 15-September 15
BALANSA CLOVER	5 lbs/acre PLS	8 lbs/acre PLS	0.25-0.5	CB	May 15-September 1	May 1-September 15
BERSEEM CLOVER	8 lbs/acre PLS	12 lbs/acre PLS	0.25-0.5	CB	May 15-September 1	May 1-September 15
CRIMSON CLOVER	10 lbs/acre PLS	15 lbs/acre PLS	0.25-0.5	CB	May 15-September 1	May 1-September 15
RED CLOVER[4]	8 lbs/acre PLS	12 lbs/acre PLS	0.25-0.5	CB	April 15-September 1	April 1-September 15
WHITE CLOVER	5 lbs/acre PLS	8 lbs/acre PLS	0.25-0.5	CB	April 15-September 1	April 1-September 15
FAVA BEAN	80 lbs/acre PLS	120 lbs/acre PLS	2-4	CB	June 15-August 15	June 1-September 1
FIELD/WINTER PEA [3]	30 lbs/acre PLS	45 lbs/acre PLS	1-1.5	CB	April 15-September 15	April 1-October 1
LENTILS	50 lbs/acre PLS	75 lbs/acre PLS	1-1.5	CB	April 15-September 15	April 1-October 1
LUPIN	40 lbs/acre PLS	60 lbs/acre PLS	1-2	CB	April 1-June 1	April 1-June 15
SAINFOIN	40 lbs/acre PLS	60 lbs/acre PLS	0.25-0.75	CB	April 15- September 1	April 1-September 15
SWEETCLOVER[4]	6 lbs/acre PLS	9 lbs/acre PLS	0.25-0.5	CB	April 15-September 1	April 1-September 15
VETCH	15 lbs/acre PLS	23 lbs/acre PLS	0.5-1.5	CB	April 15-September 1	April 1-September 15
COWPEA [3]	30 lbs/acre PLS	45 lbs/acre PLS	1-1.5	WB	June 1-August 15	May 15-September 1
SOYBEANS [3]	30 lbs/acre PLS	45 lbs/acre PLS	0.5-1	WB	June 15-August 15	June 1-September1
SUNNHEMP	20 lbs/acre PLS	30 lbs/acre PLS	0.5-2.5	WB	June 1-August 1	June 1-August 1
LEGEND						
CROP TYPE: CG=COOL SEASON GRASS, CB= COOL SEASON BROADLEAF, WG=WARM SEASON GRASS, WB=WARM SEASON BROADLEAF						
***Consider these species when planting spring cover crops for wind erosion protection at .75 of a bushel/acre. Barley-36lbs, Oats-24lbs, Wheat-45lbs**						
[1] Incorporated seed--Seeding methods used that provide good seed to soil contact. PLS=Pure Live Seed						
[2] Non-incorporated seed--Seeding methods used when broadcasting seed without mechanical incorporation. PLS=Pure Live Seed						
[3] CAUTION is due to risk for establishment with aerial seeding.						
[4] FROST SEEDING DATES: December 15-March 1 (Entire State)						
[5] All Non-Legume Broadleaves and Legume species should always be considered as part of a multi-species cover crop and rarely planted as a single species						
CAUTION is due to possible freeze risk to establishment						
1/ Plantings containing buckwheat may not be seeded within 30 feet of an existing commodity wheat field, or in a field with a planned rotation to commodity wheat within two years.						
INFORMATION from Midwest Cover Crops (MCCC) Website, MCCC Cover Crop Field Guide, Green Cover Seed, SARE-Managing Cover Crops Profitably, SARE-Cover Cropping for Pollinators and Beneficial Insects, USDA-ARS Cover Crops Chart, and USDA-NRCS PLANTS Guide						
†Rye seeded as a single species cover crop between July 15th and October 1st whether incorporated or non-incorporated can be seeded at 40 lbs per acre. October 2nd and after should be planted at posted rates. Multi-species mixes should still utilize recommended rates of 55 and 83 as a baseline for all planting periods.						