DLF

COVER CROP FORAGE CHART

SEEDS & SCIENCE

	ANNUAL COVER CROP FORAGE	PLANTING SEASON: SPRING	SUMMER	LATE SUMMER	FALL	CARBON/ NITROGEN RATIO (C:N)	SEEDING INFORMATION: SEEDING RATE (DRILL) LBS/ACRE	SEEDING RATE (MIX) LBS/ACRE	SEEDING RATE (FOR FORAGE) LBS/ACRE	SEEDING DEPTH (WITH DRILL)	SEEDS/LB	SEEDING TIME	BULK DENSITY * LBS/FT³	AERIAL SEEDING RATE*	GERMINATION SOIL TEMPERATRURE (DEGREES FAHRENHEIT)	USDA HARDINESS ZONE	DAYS TO EMERGENCE	NON-FORAGE BENEFITS: NITROGEN FIXES OR SCAVENGES	NON-FORAGE BENEFITS (5 = EXCELLENT, 1 = POOR): COMPACTION ALLEVIATION	WEED SUPPRESSION	BIOMASS PRODUCTION	EROSION CONTROL	DISEASE/PEST CONTROL	POLLINATOR/ BENEFICIALS	P & K CYCLING	EASE OF ESTABLISHMENT	NUTRITIONAL VALUE INFORMATION (VALUES VARY GREATLY DEPENDING ON MATURITY): CRUDE PROTEIN	NEL † MCAL/LB	ADF% ‡	NDF% ◊	TDN	DM TONS PER ACRE	DAYS TO 1ST HARVEST	DAYS TO NEXT HARVEST	GRAZE	BALEAGE	CHOP
BRASSICA/MUSTARD	Camelina (Winter)				✓	20:1 - 30:1	4 - 6	1 - 2	∘	¼"	400,000	Oct-Nov	∘	8-10	36°	3	7 - 10	Scavenger	4	5	3	4	3	5	5	5	∘	∘	∘	∘	∘	∘	∘	∘	∘	∘	∘
BRASSICA/MUSTARD	Daikon Radish			✓		Tops - 9:1	3 - 8	1 - 3	5 - 8	¼"	30 - 40,000	Aug-Sep	44	3-8	45°	9	3 - 5	Scavenger	5	5	4	4	3	2	4	5	18	0.73	26	21	70	2-4	45	∘	+++	∘	+
BRASSICA/MUSTARD	Oilseed Radish			✓		Tops - 9:1	8 - 12	3 - 8	8 - 12	¼"	30 - 40,000	Aug-Sep	44	6-12	45°	9	3 - 5	Scavenger	4	5	4	4	4	3	4	5	18	0.73	26	21	70	2-4	45	∘	+++	∘	+
BRASSICA/MUSTARD	Turnips (Top)			✓		Tops - 9:1	2 - 6	2 - 4	3 - 8	¼"	220,000	Aug-Sep	45	2-6	45°	6 - 7	4 - 10	Scavenger	3	5	4	3	3	3	3	5	16	0.70	23	20	69	2-5	60-80	∘	+++	∘	+
BRASSICA/MUSTARD	Vivant Brassica		✓	✓		10:1 - 15:1	4 - 6	2 - 3	5 - 6	¼"	165,000	July-Sep	44	5-6	45°	7	4 - 6	Scavenger	3	4	4	3	3	3	3	5	14	∘	23	22	78	2-5	35-40	25-30	+++	++	+
BRASSICA/MUSTARD	Forage Collards	✓	✓	✓		15:1 - 25:1	5 - 12	1 - 4	10 - 12	¼" - ½"	175,000	Mar-Apr; Aug-Oct	44	8-12	40°	5	4 - 10	Scavenger	3	4	4	4	3	3	3	5	20	0.74	25	21	70	2-4	35-40	25-30	+++	∘	+
BRASSICA/MUSTARD	Rapeseed	✓		✓		20:1 - 22:1	4 - 6	2 - 4	6 - 8	¼" - ½"	145,000	Apr-May; Aug-Sep	45	5-8	41°	5	4 - 10	Scavenger	5	3	4	4	4	4	4	5	14	TBD	28	41	57	1.5-4	60-80	∘	+	++	+++
BRASSICA/MUSTARD	Yellow/White Mustard	✓		✓		20:1 - 30:1	6 - 15	2 - 5	∘	¼" - ¾"	100,000	Apr-May; Aug-Sep	46	10-15	40°	7	5 - 7	Scavenger	4	3	4	3	4	5	3	5	∘	∘	∘	∘	∘	∘	∘	∘	∘	∘	-
LEGUMES	Crimson Clover	✓		✓		15:1 - 20:1	10 - 15	4 - 8	6 - 15	¼"	150,000	Feb-Mar; Aug-Sep	52	6-15	42°	7	7 - 10	Fixer	2	4	3	3	3	3	3	4	17	0.56	31	42	59	.5-2	60	∘	++	+++	+
LEGUMES	Berseem Clover	✓		✓		15:1 - 20:1	8 - 20	5 - 10	15 - 20	¼"	150,000	Mar-Apr; Aug-Sep	52	6-15	40°	8	5 - 8	Fixer	2	4	3	4	1	3	4	4	18	0.73	23	36	69	1-2.5	60	∘	+	+++	++
LEGUMES	Balansa Clover	✓		✓		15:1 - 20:1	3 - 6	1 - 4	3 - 6	¼"	500,000	Feb-Mar; Aug-Sep	56	3-6	40°	5	14	Fixer	3	4	4	4	3	5	3	4	16	TBD	31	45	65	1-4	40-50	∘	++	+	+++
LEGUMES	Winter Hairy Vetch			✓	✓	10:1 - 15:1	15 - 30	10 - 20	30 - 40	1"	16,000	Aug-Sep	52	NR	60°	3 - 4	14	Fixer	3	4	4	3	3	5	4	3	26	0.58	33	48	64	1-3	Spring	∘	+++	∘	+
LEGUMES	Sunn Hemp		✓	✓		18:1 - 29:1	15	5 - 8	5 - 15	½" - 1"	15,000	July-Sep	∘	NR	65°	Frost	3 - 7	Fixer	2	4	5	3	3	4	3	3	25	---------- Varies Greatly ----------				1-5	40-45	∘	+++	+	++
LEGUMES	Austrian Winter Peas			✓	✓	15:1 - 20:1	30 - 80	10 - 30	40 - 60	1"	2,000	Aug-Sep	52	NR	41°	6+	9	Fixer	2	4	3	3	3	4	2	4	28	0.60	38	54	70	0.5-2	Spring	∘	++	+	+++
LEGUMES	Peas (Hay)	✓		✓		20:1 - 25:1	75 - 120	10 - 50	75 - 120	1"	3,000	Mar-Apr; Aug-Sep	50	NR	41°	Frost	9	Fixer	2	4	3	3	3	4	2	4	10	0.60	52	62	60	1.5-3	60-80	∘	++	+	+++
LEGUMES	Peas (Silage)	✓		✓		Pea Straw - 29:1	75 - 120	10 - 50	75 - 120	1"	3,000	Mar-Apr; Aug-Sep	∘	NR	41°	Frost	9	Fixer	2	4	3	3	3	4	2	4	16	0.58	44	55	58	1.5-3	60-80	∘	∘	+	+++
LEGUMES	Peas and Oat Mix	✓	✓	✓	✓	∘	75 - 120	∘	75 - 120	¾" - 1"	Varies	Mar-Apr; Aug-Sep	∘	NR	41°	Frost	5 - 9	Both	2	4	4	4	3	3	3	4	17	0.57	30	57	59	3-5	60	∘	++	+	+++
LEGUMES	Medium Red Clover	✓		✓	✓	12:1 - 16:1	8 - 12	6 - 8	8 - 12	¼"	270,000	Feb-May; Aug-Oct	48	4-10	41°	4	7 - 10	Fixer	4	4	4	3	2	4	4	3	16	0.56	36	46	55	2-5	Spring	40	++	+++	+
GRASSES	Annual Ryegrass	✓		✓	✓	Vegetative - 20:1	15 - 30	10 - 15	25 - 35	¼"	215,000	Mar-Apr; Aug-Oct	32	15-35	40°	6	7	Scavenger	5	5	3	5	3	2	3	5	9	0.58	38	65	58	.5-2	90	∘	++	+	+++
GRASSES	Spring Oats (Hay)	✓		✓		Vegetative - 20:1	30 - 50	20 - 40	80 - 120	¾" - 1"	15 - 18,000	Mar-Apr; Aug-Sep	38	20-60	38°	7	5 - 8	Scavenger	2	4	5	4	3	1	3	4	10	0.54	39	63	54	3-6	60-70	∘	++	+	+++
GRASSES	Spring Oats (Silage)	✓		✓		Straw - 80:1	30 - 50	20 - 40	80 - 120	¾" - 1"	15 - 18,000	Mar-Apr; Aug-Sep	∘	20-60	38°	7	5 - 8	Scavenger	2	4	4	4	3	1	3	4	12	0.60	39	59	60	1.5-3.5	80	∘	∘	+	+++
GRASSES	Winter Rye (Hay)			✓	✓	Vegetative - 20:1	30 - 50	20 - 40	80 - 120	¾" - 1"	16 - 18,000	Aug-Oct	50	20-60	34°	3	5 - 8	Scavenger	4	5	4	5	3	1	4	4	10	0.58	38	65	58	3-5	Spring	∘	+	++	+++
GRASSES	Winter Rye (Silage)			✓	✓	Straw - 70:1	30 - 50	20 - 40	80 - 120	¾" - 1"	16 - 18,000	Aug-Oct	∘	20-60	34°	3	5 - 8	Scavenger	4	5	4	5	3	1	4	4	14	0.59	37	59	59	2.5-4	Spring	∘	∘	+	+++
GRASSES	Triticale (Winter)			✓	✓	Vegetative - 20:1	30 - 50	20 - 40	80 - 120	¾" - 1"	14 - 16,000	Aug-Oct	48	20-60	38°	3	6 - 8	Scavenger	2	4	5	4	3	1	4	4	12	0.58	41	69	56	2.5-4	Spring	∘	+	++	+++
GRASSES	Triticale (Spring)	✓		✓		Straw - 80:1	30 - 50	20 - 40	80 - 120	¾" - 1"	14 - 16,000	Mar-Apr; Aug-Sep	∘	NR	38°	3	6 - 8	Scavenger	2	4	5	4	3	1	4	4	12	0.58	39	56	58	3-4	50-60	∘	++	+	+++
GRASSES	Barley (Winter)			✓	✓	Vegetative - 20:1	30 - 50	20 - 40	80 - 120	¾" - 1"	14 - 16,000	Aug-Oct	40	20-60	38°	6	6 - 8	Scavenger	1	4	5	4	3	2	3	4	9	0.57	37	65	57	3-4	Spring	∘	++	+	+++
GRASSES	Barley (Spring)	✓		✓		Straw - 80:1	30 - 50	20 - 40	80 - 120	¾" - 1"	14 - 16,000	Mar-Apr; Aug-Sep	∘	NR	38°	6	6 - 8	Scavenger	1	4	5	4	3	2	3	4	12	0.58	37	58	59	2-4	50	∘	++	+	+++
GRASSES	Wheat (Hay)			✓	✓	Vegetative - 20:1	30 - 50	20 - 40	80 - 120	¾" - 1"	11 - 12,000	Aug-Oct	48	20-60	38°	3	6 - 10	Scavenger	3	4	4	5	3	1	4	4	9	0.57	38	66	59	2-3	Spring	∘	++	+++	+
GRASSES	Wheat (Silage)			✓	✓	Straw - 80:1	30 - 50	20 - 40	80 - 120	¾" - 1"	11 - 12,000	Aug-Oct	∘	20-60	38°	3	6 - 10	Scavenger	3	4	4	5	3	1	4	4	12	0.59	37	62	59	2-3	Spring	∘	∘	+	+++
GRASSES	Forage Sorghum		✓			Vegetative-20:1	6 - 20	∘	6 - 20	¾" - 1 ½"	17,000	May-July	45	NR	65°	Frost	10	Scavenger	4	5	5	4	4	3	3	4	9	0.59	38	59	59	6-9	80-105	∘	++	+	+++
GRASSES	Sorghum x Sudan		✓			Leftover Stalks-80:1	25 - 70	5 - 20	25 - 70	¾" - 1 ½"	21,000	May-July	45	NR	65°	Frost	10	Scavenger	4	5	5	4	4	3	3	4	16	0.70	29	55	55	5-8	45-70	30	+	++	+++
GRASSES	Sudangrass		✓			∘	20 - 45	∘	20 - 45	½" - 1"	43,000	May-July	40	NR	65°	Frost	3 - 5	Scavenger	4	5	5	4	4	3	3	4	9	0.57	43	67	57	2-6	50	30	+	++	+++
GRASSES	Teff Grass		✓			Vegetative - 20:1	8 - 12	∘	8 - 12	¼"	1,300,000	May-July	∘	NR	65°	Frost	3 - 5	Scavenger	1	3	3	4	3	2	3	4	18	0.60	33	57	64	3-5	35	25	∘	+	+++
GRASSES	Pearl Millet		✓	✓		12:1 - 20:1	20 - 30	5 - 20	20 - 30	½" - 1"	60,000	May-Aug	42	NR	65°	Frost	3 - 5	Scavenger	3	5	5	4	4	3	3	5	16	0.66	39	48	52	3-6	45	35	++	+	+++
GRASSES	German Millet		✓	✓		12:1 - 20:1	20 - 25	5 - 15	20 - 25	1"	220,000	May-Aug	∘	NR	65°	Frost	3 - 5	Scavenger	3	3	4	5	3	1	3	4	14	N/A	34	60	60	2-4	50	∘	+++	∘	∘
GRASSES	White Proso Millet		✓	✓		12:1 - 20:1	20 - 30	5 - 20	20 - 30	1"	80,000	May-Aug	37	NR	65°	Frost	3 - 5	Scavenger	3	3	4	5	3	1	3	4	12	N/A	39	72	62	1.5-2.5	50	∘	+++	∘	∘
OTHER	Phacelia		✓	✓		12:1 - 18:1	8	1 - 2	8	¼"	230,000	Jun-Sep	∘	8-10	37°	8	10 - 14	Scavenger	2	5	3	3	4	5	2	4	∘	∘	∘	∘	∘	∘	∘	∘	∘	∘	+
OTHER	Sunflower		✓	✓		Leaves 20:1, Stalks 40:1	3 - 5	1 - 2	3 - 5	¾" - 1"	8,000	May-Aug	28	NR	50°	Frost	4 - 10	Scavenger	4	3	3	4	3	5	4	3	11	TBD	36	42	63	2-3	Varies	∘	+++	∘	++
OTHER	Buckwheat	✓	✓			10:1 - 18:1	40 - 55	5 - 20	40 - 55	½" - 1"	15,000	May-Aug	40	NR	65°	Frost	3 - 5	Scavenger	3	5	4	2	1	5	5	5	12	0.68	33	44	65	1.5-4	60	∘	++	∘	+
OTHER	Sugar Beet		✓	✓		Tops - 19:1	2 - 5	1 - 3	2 - 5	¼"	10,000	May-July	24	NR	50°	8	7 - 14	Scavenger	4	4	4	3	3	2	3	4	14	0.58	14	25	58	2-4	60-80	∘	+++	∘	+
																											18	0.55	37	49	55	3-8	∘	30	∘	∘	+++
																											19	0.59	35	45	59	3-8	∘	30	+	++	+++
																											8	0.74	27	46	72	7-10	120	∘	∘	∘	+++

† - Net Energy for Lactation = Energy available after subtracting digestive and metabolic losses | ‡ - Acid Detergent Fiber = Low values mean more digestible | ◊ - Neutral Detergent Fiber = Low values mean cows can eat more

Days to Harvest = Estimations based on average growing season to reach optimum quality

* +/- 5%. Bulk Density averages are only a guide. Moisture, humidity and seed quality all affect bulk density.

REFERENCES: Texas Tech University, Oklahoma State University, Iowa State University, Mississippi State University, North Dakota State University, Colorado State University, University of Florida, Michigan State University, University of Wisconsin, Kansas State University, NRCS/USDA

Some Benefit = +
More Benefit = ++
Best Benefit = +++
Not Recommended = ⊘
Not Applicable = ∘