

Characteristics of the main legume green manure species for the Canadian Prairies.

Species	Life cycle (1)	Zone (2)	Tolerances (3)				Soil type preference	pH preference	Water use (4)	Habit (5)	Root Type	Mycorrhizal associations	Growth rate (6)	Growth period before termination (7)	Dry matter(8) (lb/A/yr)	N fixed (lb/A) (9)	N scavenging(10)	Erosion suppression	Weed suppression	Compaction Reduction	Grazing Potential (11)	Lasting Residue (12)	Seeding rate (lb/ac)
			Heat	Drought	Shade	Flood																	
Alfalfa	P		5	5	3	2	Most, if well drained	6.0-8.0	H	U	Tap	Yes	**	*****	2,000-5,600	50-200	***	*****	****	*****	*****	****	8-12
Clover, red	P	4	4	1	4	4	Loam to clay	6.2-7.0	M/H	U	Weak tap/Fibrous	Yes	**	***	2,000-7,000	25-170	***	****	****	*****	*****	***	8-12
Faba bean	A	8	1	1		3	Loam to silt clay	5.5-7.3	M	U	Tap	Yes	***	***	3,000-6,000	75-150	**	**	***	***	***	**	170-300
Field pea	A	7	2	2	2	2	Clay loam	6.0-7.0	L	C	Weak tap/Fibrous	Yes	****	***	3,000-6,000	75-150	**	***	***	**	****	**	120-175
Lentil, Indianhead	A		2	4	2	1	Most, if well drained	7.0	L	U	Fibrous	Yes	***	**	1,500-3,000	40-75	**	**	**	**	****	**	35-40
Sweetclover, yellow	B	4	4	5	2	2	Most	6.5-7.5	M/H	U	Tap	Yes	***	****	2,000-5,500	50-150	**	****	****	****	****	****	8-15
Vetch, chickling	A		2	3	3	2	Most	6.0-7.0	L	C		Yes	**	**	1,500-4000	40-100	**	**	**	**	***	**	60-80
Vetch, hairy	A	4	3	3	3	3	Most	5.5-7.5	L/M	C	Tap	Yes	***	****	2,300-8,000	80-250	**	***	***	**	***	**	20-40

- Life Cycle** – A= Annual, WA= Winter annual, B= Biennial, P= Perennial
- Zone** – see USDA hardiness zone map
- Tolerances** – 1= Poor, 2= Fair, 3= Good, 4= Very Good, 5= Excellent
- Water Use** – L= Low, M= Medium, H= High
- Habit** - C = Climbing, U = Upright, P = Prostrate, SP = Semi-prostrate, SU = Semi-upright
- Growth rate** – \*= slow, \*\*\*= moderate, \*\*\*\*\*= quick
- Growth period before termination** – the period of time the cover crop is typically allowed to grow before it is terminated. Most cover crops can be terminated earlier, but their benefits may be smaller. Terminating earlier is recommended if moisture availability is low. Terminating later may result in production of viable seed, especially in annuals.
- Dry Matter** – Quantity of dry biomass produced up to typical time of cover crop termination, assuming adequate crop establishment and growing conditions.
- N fixed** – quantity of N typically fixed by well-nodulated legumes producing typical amounts of dry biomass.
- N scavenging** – ability to take up/store excess nitrogen
- Grazing potential** – production, nutritional quality and palatability
- Lasting residue** – rates how long the killed residue remains on the surface

A selection from the 3<sup>rd</sup> Edition of the COG Field Crop Handbook