Perennial flax – *Linum spp.*

Key Cultivars:

- Linum perenne 'Appar'
- Linum lewisii 'Maple grove'

Climate Risk Notes:

Fluctuating winter temperatures are one of the biggest concerns for perennial flax. High winter temperatures can cause the grain to prematurely break dormancy, which can be fatal if temperatures drop again.

Drought tolerance is key for the survival of perennial flax. Currently in Wisconsin it can grow without irrigation, but as weather patterns change, supplemental irrigation may be needed

Diseases are spreading more rapidly do to changing climate factors. For perennial flax, rust is a fungal disease that has increased and will likely continue to increase as the environment continues to change.

	Key Months for Crop Development and Thresholds											
	DEC	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**
Stage of growth *(under current conditions)*	Dormant [c, e, k]	Dormant [c, e, k]	Dormant [c, e, k]	Planting, Vegetative growth [e, h, l]	Planting, Vegetative growth [e, h, l]	Flowering [c, e, l]	Flowering, Maturation [a, c, e, k, l]	Harvest [a, c, e, l]	Harvest, Maturation [a, c, e, l]	Harvest [a, h, j, k]	Harvest, Planting [a, e, h, l]	Planting, Dormant [a, c, e, k]
Min Temp *(°F)*	10 [a]	-40 [a]	20 [a]	32 [a]	55 [a]	60 [a]	60 [a]	60 [a]	60 [a]	55 [a]	32 [a]	32 [a]
Max Temp *(°F)*	35-40 [a]	35-40 [a]	35-40 [a]	45 [a]	65 [a]	75 [a]	105 [a]	105 [a]	105 [a]	75 [a]	65 [a]	45 [a]
Ideal Precipitation *(in/week)*					1 [a]	1 [a]	1 [a]	1 [a]	1 [a]	1 [a]	1 [a]	

Climate									*Soil*						
Min Optimal Temp (°F)	**Max Optimal Temp (°F)**	**Min Absolute Temp (°F)**	**Max Absolute Temp (°F)**	**Germination Soil Temp (°F)**	**Growing Degree Days (50°F base)**	**Chilling Hours (32-45°F)**	**Min Rainfall (in/year)**	**Max Rainfall (in/year)**	**Min pH**	**Max pH**	**Optimal Soil Texture**	**Absolute Soil Texture**	**Optimal Soil Drainage**	**Absolute Soil Drainage**	**Soil Depth (in)**
60 [d, g, j]	80 [d, g, j]	-40 [d, f, i]	105 [a, c, f, g]	15-21 [a, d, h]	750-1200 [a*]	NA [a]	10 [g, h, j]	60 [a, g, j]	6 [a, b, e, h]	8 [a, b, e, h]	Loam, sandy loam, sandy clay loam [a, e, h, l]	Sand, clay, silt, silty clay, clay loam, loam, loamy sand, silt loam, silty clay loam [a, e, h, l]	Well drained [c, e, h]	Somewhat excessively drained, moderately well drained [c, e, h]	20 [f, g, j]

**Not much research has been done on growing degree days for perennial flax in Wisconsin. This range was found using a similar crop, alfalfa, as a reference*

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