

CROP PROFILE

FLAX

Linum usitatissimum Flowering plant
Member of the Linaceae family



History

Flax was one of the first crops domesticated by man. It is thought to have originated in the Mediterranean region of Europe. The Stone Age people called, Swiss Lake Dwellers, produced flax; utilizing its fiber and seed.

Climate Needs

Flax plant needs adequate moisture and relatively cool temperatures, particularly from flowering to maturity. This will help yield high oil content and quality. Flax tolerates a light frost, however yields tend to decrease as precipitation diminishes.

Risk

As with any crop, there are risks to growing flax. This plant does not like being in waterlogged soil and has quite a few diseases and pests to look out for.

Flax Description

The flax plant can grow 12 to 36 inches with a branched taproot system that extends to a depth of 3 to 4 feet in coarse-textured soil. The flower has five petals and a five-celled boll which may contain up to 10 seeds when filled.

Soil

Soil should be fertile, fine-textured clay and is best when it is well-worked and firm to avoid air pockets. In spring, shallow disking and harrowing are usually practiced to prepare seedbeds. Fall plowing is preferred but not required. If the field is rolled before planting, a more uniform planting depth will result.

Seeding

Flax seeded early gives the highest yields in most years and should be planted at about the same time as oats. A seeding rate of 42 to 50lbs of seed/acre and about ½ to 1-inch planting depth. Usually sown with a grain drill, the press wheel type is ideal for this plant; however, a roller-type seeder may also be used.

Weed Control

Cultivation following early fall plowing will aid in weed control. Poast can be applied at .5 to 2.5 pints per acre; always use a crop oil concentrate. Do not apply Poast within 75 days of harvest and do NOT graze or feed treated flax forage to livestock. To control annual broad-leaf weeds postemergence, apply ⅓ to ½ pint per acre of MCPA Amine when flax is 2 to 6 inches tall but before the bud stage. Buctril (bromoxynil) can also be applied postemergence to control broad-leaf weeds. Apply 1 pint/acre in 10 to 20 gal of water before weeds exceed the four-leaf stage and the flax is 2 to 8 inches tall.

CROP PROFILE

Pest & Disease Management

Diseases known to impact the flax plant include: rust, pasmo, wilt, seedling blight, aster yellows, and crinkles.

Pests known to harm the flax plant include: cutworms, wireworms, aphids, grasshoppers, and the beet webworm.



Highlights

In Wisconsin, flax is a spring annual with a 90 to 110-day growing season. After sunrise on a warm day, individual flowers can be seen opening and falling, usually before noon. This plant is self-pollinating, however insects can intersect causing natural crossing. Flax seeds have been used for food, oil, and fibers for clothes around the world. The true blue color of the flower produces a blue fabric dye.

Fertility

Lime may be applied to maintain soil pH in the 6.0 to 6.5 range. Phosphorus and potassium should be checked before planting. Stands of flax will likely be reduced if combined rates of N, P₂O₅, and K₂O applied with the seed exceed 20 lbs per acre.

Harvest

The flax plant is usually windrowed and allowed to dry before combining; however, it may be combined standing if weed free and the plants appear uniform in maturity. Flax is ready to harvest when 90% of the bolls have turned brown and the seeds are under 12% moisture. The combine cylinder speed should be adjusted to 800-1300 RPM, and cylinder concave clearance should be 1/16-1/4" to avoid cracking. A sharp cutter bar is necessary when combining direct. A sieve with an opening of 1/16 to 3/16" is suggested.

Cleaning & Storage

To clean flax seeds, use a 4x16 mesh wire sieve. A metal sieve with round holes 1/14inch in diameter will remove most of the tiny weed seeds and fragments of flax seed. Air blasts can be regulated to blow out all immature and shrunken flax seeds and trash. Flax seeds with over 11% moisture usually cannot be stored safely for extended periods. Store only in dry tight bins or containers.



CROP PROFILE

Rating any crop’s production opportunity or risk is subjective and depends on the region where the crop is to be raised. Genetic advancement for pathogen tolerance and adverse weather condition has been more significant for popular, high seed sales crops such as corn and soybeans. The below table lists some of the issues of producing specific crops and helps guide your process of selecting your cropping choice.

Average rating: 3

Issue	1	2	3	4	5
Seed availability					X
Scouting requirements		X			
Drought tolerance		X			
Waterlogged soil tolerance		X			
Disease pressure		X			
Wildlife concerns			X		
Yield swings			X		
Harvest ability			X		
Field loss			X		
Market demand				X	
Soil regeneration			X		
Residue value			X		
Storability				X	
Benefit for following crop			X		

1- very low 2- low 3- average 4- moderately high 5- very high

- Seed availability** – Price, lead time, and required lot size are consideration for these issues
- Scouting requirements** – What frequency does someone need to look at the crop?
- Drought tolerance** – Rainfall patterns are requiring crops go longer between rainfall events.
- Waterlogged soil tolerance** – Rainfall events tend to produce higher volumes than historical averages.
- Disease pressure** – Plant stress has increased with the rise of daytime temperatures
- Wildlife concerns** – Deer, rabbits, voles, resident geese, and others can destroy fragile crops.
- Yield swings** – How predictable will the income be when this crop goes to market?
- Harvest ability** – Do we need plans B & C if adverse conditions affect the harvest?
- Field loss** – How much will be left in the field and can we monetize field loss?
- Market demand** – Does this crop have an elastic delivery window and are there timing penalties?
- Profitability** – Is there potential for higher margins needed for a shrinking land base?
- Soil regeneration** – Does this crop support the next crop?
- Residue value** – What remains after the target crop? Can we monetize the residue?
- Storability** – How long can we hold this crop? Will quality be challenging to maintain?