

Should I grow flax?

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Why not? Flax is an important oil seed crop that can be successfully grown in Northwestern Ontario. In the research plots at Thunder Bay Agricultural Research Station (TBARS), Thunder Bay, up to 4 MT/ha flax seed yield was recorded. Its growth requirements are more or less the same as other oil seeds crops such as canola, though its N requirements are less than half of that of canola and the seed cost is much less, because one doesn't have to buy costly GM seeds as with canola, soybean or corn. Thus it is relatively a low input (cost) crop and much easy to grow. Flax seed is rich in fibre, antioxidants and omega-3 fatty acids (anti inflammation). While its vitamin and mineral contents are similar to cereal grains, it is low in carbohydrates and high in protein content (25 %). Flax seed thus makes a healthy food; helps lowering body weight and cholesterol. Fibre in flax also helps stabilizing blood sugar and proper functioning of intestines (helps relieve constipation). With the interest shown by the Grain Elevators from Thunder Bay to buy grains/seeds from our producers, marketing shouldn't be a constraint in extending flax cultivation on farms. Market value of flax could be further enhanced by packaging and selling it in 0.5-1 kg packets of whole or ground flax. Entrepreneurs among farmers could take advantage of some funding programs (Growing Forward 2, Local Food Fund and NOHFC) to develop such small scale businesses. Flax seed could also make a delicious/healthy component of livestock feed. Though flax can be rotated with almost all crops (cereals, corn, grain legumes, hay crops and even canola), it would be an ideal crop to rotate with winter wheat. Volunteer flax, if any, in winter wheat could be easily controlled by refine extra. Its light blue flowers have a great scenic value!

Flax should be seeded @ 40 kg seed/ha (16 kg/acre) in spring at the same time as spring cereals or canola. Two best flax varieties are CDC Glas (which produced ~ 4 MT/ha seed yield at TBARS) and CDC Plava (recommended by Dr. Helen Booker, University of Saskatchewan, based on her research). Dr. Booker recommended CDC Glas as well. Seed source for both the varieties is SeCan (Tel: 613-592-8600, Fax: 613-592-9497; email: seed@secan.com). Trent Whiting (twhiting@secan.com; Cell phone: 780.887.3639) has been my good contact in SeCan and he has been very helpful. Buctril M or Logic M gives a perfect weed control in flax. The advantage of including flax in cropping systems would be that you don't have to clean the spray pump when you move for spraying herbicide from flax to cereal fields or *vice versa*.

For fertilizer application, use the same rates of N, P and K as for cereals. In addition, apply 18-24 kg S/ha. Remember flax is an oil seed crop and oil seeds have higher S requirements than the cereals. Prefer ammonium sulphate as a source of S and adjust the N supplied by ammonium sulphate in the other N fertilizers (urea/or urea + ESN). What else you need to do? Watch the crop growing and harvest when the seed capsules turn brown (each capsule has ~10 seeds). At this stage, the straw will not be completely dry (same as in canola). There are two options; one swath and combine later or spray a desiccant to dry the whole plant before direct combining.

Flax could be seeded with cereals in the same row. Research at TBARS on such cropping systems last year indicated that:

- Forage dry matter yields from pure crops of wheat, barley, oats and flax were 11,613, 11,338, 10,866 and 10,042 kg/ha.
- Intercropping oats and flax @ 50 % seed rate of each crop raised the forage dry matter yield to 13,307 kg/ha (2,441 kg/ha than oats alone).
- Intercropping wheat and flax (wheat @ 75 % seed rate and flax @ 50/or 75 % seed rate) increased the forage dry matter yield to ~12,200 kg/ha (~600 kg/ha more than wheat alone). Intercropping barley and flax didn't help in increasing the forage yield as compared to barley/or flax alone.
- Protein content in flax forage (12.3 %) was higher than that in the cereal forages (9.8-10.8 %)/or the cereals flax intercropping systems (6.8-11.1 %) except wheat flax intercropping @ 50 % seed rate of each; which had 12.8 % protein and also the highest RFV (145).
- Total grain/seed productivity from barley flax intercropping @ 50 % seed rate of each crop was ~600 kg/ha greater than barley alone. At the same population mix of wheat and flax, grain productivity was ~330 kg/ha higher than wheat alone. There was no such gain from oats and flax intercropping.

Cereal flax mixed cropping systems could be particularly attractive to organic producers, and small scale farmers/or gardeners.

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