



“Growing for the Market”



**Flax Day
Saskatchewan Flax Development Commission
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Linum Research Program Leader**





Breeding Mission Statement



To enhance value in Linum by developing and integrating strategic improvements sought by end-users, into an excellent agronomic package that growers will want to grow...

A new breeding objective must encompass:

Profitability for End-User

Profitability for AU (IP)

Profitability for Farmer

“Classes of Linseed”



Solin

Linola™

~ 2% C18:3

143-149 Iodine Value

yellow seeded

Solin

Linola™

~ 2% C18:3

143-149 Iodine Value

yellow seeded

High Omega-3 Flax

NuLin™

> 65% C18:3

> 205 iodine value

brown or yellow seeded

Linola™

High omega-6 fatty acid (sunflower/safflower oil)
‘High linoleic fatty acid’

High polyunsaturated oil source for spreads and margarines (North American sunoil mid-oleic)

Interest in industrial oils as a non-drying, chemically reactive oil (resins, plastics, cosmetics and paints)
(Dr. S Campbell’s Industrial Flax Oil Report for 2015)

Primary

1. Low total saturates...11% to 10% to 9%...(5.7%)
2. Yield and agronomics; Linola 2090
3. 70-80% linoleic fatty acid content

Secondary

1. High oil content... > 53%
2. High meal protein content...up to 50%

Solin Variety Performance

| <u>Variety</u> | <u>Sats</u> | <u>Yield</u> | <u>C18:2</u> | <u>Oil</u> | <u>Protein</u> |
|----------------|-------------|--------------|--------------|------------|----------------|
| Linola 2090 | 9.5 | 107 | 70.2 | 48.1 | 46.4 |
| CDC Gold | 10.6 | 92 | 71.6 | 44.1 | 47.8 |

Yield evaluated from 32 station-years of data

NuLin™

**High omega-3 fatty acid
'High linolenic fatty acid' > 65%**

Source of high omega-3 oils for nutraceutical and functional foods (humans are deficient in omega-3's)...bread, eggs, dairy, pet food, aquaculture, pork, etc

Interest as a fast drying industrial oil, in the manufacture of linoleum, paint, ink, varnish, etc

Primary

1. > 65% omega-3; up to 76.5%
2. Yield goal is \geq than CDC Bethune
3. Low total saturates; down to 5.5%

Secondary

1. High oil content; up to >53% oil (db)
2. High meal protein content; >50% meal protein (db)

| <u>Entry</u> | <u>Omega-3</u> | <u>I.V.</u> | <u>Yield</u> | <u>Sats*</u> | <u>Oil</u> | <u>Protein*</u> |
|--------------------|----------------|-------------|--------------|--------------|-------------|-----------------|
| CDC Bethune | 54.4 | 189 | 100 | 8.4 | 47.1 | 44.0 |
| NuLin 50 | 67.5 | 210 | 103 | 7.5 | 48.5 | 44.2 |

20 station-years of data across Prairies (2005-2006)

****11 station-years of data across Prairies in 2005***

**2006 Flax Nursery near
Rosebank, Manitoba**

Discussion...

