Manitoba Flax Production

Executive Summary – March 2015

insightrix®

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Executive Summary

In the mid 1980's, Manitoba grew approximately 1,000,000 acres of flax. Currently, Manitoba is growing approximately 100,000 acres of flax and is now trailing behind Saskatchewan and Alberta in flax acres. This study is intended to assist in identifying why this shift has occurred and ways to reverse the trend.

This Manitoba Grower survey was financially supported by the Flax Council of Canada and the Canada-Manitoba Growing Forward 2, Growing Actions Program. Much appreciation to the Manitoba Flax Growers Association for participating and encouraging Manitoba producers to participate. The study was fielded in late 2014 and early 2015. Two groups were identified; those that currently include flax in their rotation and those that grew flax in the past and do not currently include it in their rotation.

To achieve these goals, two groups were identified and contacted in late 2014 and early 2015:

- Producers that currently include flax in their rotation:
  - Contacted via survey
  - 72 producers contacted

- Producers that no longer grow flax in their rotation:
  - Contacted via in-depth interview
  - Nine producers contacted

The following slides present highlights from the study.

Executive Summary - Past Producers

The main objectives in interviewing past flax producers include determining:

- Why some producers no longer include flax in their rotation
- What it would take for these producers to consider growing flax again

Key takeaways from this portion of the study include:

- Most commonly, crops grown in 2014 include canola, wheat, and soybeans.
- Producers stopped growing flax over a range of years between 2000 and 2013.
    - Prior to that, flax was included in crop rotations steadily over the years it was farmed, with many saying they planted flax every year.
    - On average, producers say they had yields of between 15 and 30 bushels per acre, but reported that it tended to vary a lot between years.
- Producers like to obtain their crop information from a wide variety of sources, but typically prefer it from other producers and through printed material from industry experts (i.e. input suppliers and agronomists).
- Flax crops have primarily been replaced with canola, although producers also reported that soybeans, corn, wheat, and oats were also used as replacement crops.
    - The most common advantage reported for these crops over flax is a consistent yield.
- The main reason given for discontinuing flax is the lack of a consistent and reliable yield.
    - Producers indicated they would consider adding flax back to their crop rotation if the yield was more consistent and there were herbicides better tailored for use with flax.
- Looking forward, three of the nine producers interviewed indicated that they were already considering planting flax next year.

Executive Summary - Past Producers

The main objectives in interviewing current flax producers include:

- Comparing the best management practices of the top 15 producers versus the lowest 15
- Comparing management practices of all 72 producers to identify yield impacts
- Summarizing production practices from all producers contacted
- Summarizing acreage change over the past five years
- Identifying the main advantages and disadvantages to flax production
- Summarize agronomic information resources used and desired by producers

The following slides present a high level summary of current flax producers. Please refer to the body of the report for more detail.

Executive Summary – Current Producers

Best Management Practices - Highlights	Top Yielders	Lowest Yielders
Average Yield	31.4 Bushels/Acre	17.1 Bushels/Acre
System Used	Conventional (93%)	Conventional (67%)
Top Seed Varieties	CDC Bethune (33%) CDC Sorrel (13%)	CDC Sorrel (27%) Hanley (20%)
Tested Soil	47%	20%
Seeding Date	May	May & June
Applied Fertilizer	100%	73%
Top Fertilizer Application Methods	Deep or side-banded (53%) Seed placed (40%) Broadcast (13%)	Broadcast (40%) Deep or side-banded (30%) Injected (30%)
Top Seeding Equipment	Air-seeder (40%) Air-drill (27%)	Double disc press drill (33%) Air-drill (20%)
Average Row Spacing	8.3 Inches	7.5 Inches
Pack After Seeding	53%	33%
Top Weed Control Methods	In-crop post emergence (100%)	In-crop post emergence (67%)
Herbicide Application	100%	73%
Used Authority/Authority Charge	7%	9%
Yield Loss Due to Weeds	5%	21%
Used Headline EC	80%	20%
Yield Loss Due to Disease	4%	9%
Yield Loss Due to Insects	2.5%	6.7%
Desiccant Usage	40%	27%
Swath/Combine	Swath (40%) Straight combine (60%)	Swath (80%) Straight combine (20%)

Executive Summary – Current Producers

Yield Impact of Major Management Practices			
Category	**Details**	**Count**	**Average**
Rotation	3 years	14	23.4
	4 years	22	30.2
Soil Testing	Soil tested	22	29.7
	Did not soil test	50	27.4
Fertilizer Application Method	Seed placed or banded	55	31.5
	Broadcast	15	26.6
Fertilizer Use	Applied fertilizer	68	29.0
	Did not apply fertilizer	4	14.0
Sulphur	Applied	23	30.8
	Did not apply	49	26.9
Crop Prior to Flax in Rotation	Cereal	44	33.4
	Soybeans	2	34.0
	Canola	6	18.5
Tillage Regime	Minimum till	24	31.0
	Zero till	16	25.6
	Conventional till	32	27.3
Seeding Date	First half of May	29	31.5
	Second half of May	35	27.1
	June	4	17.3

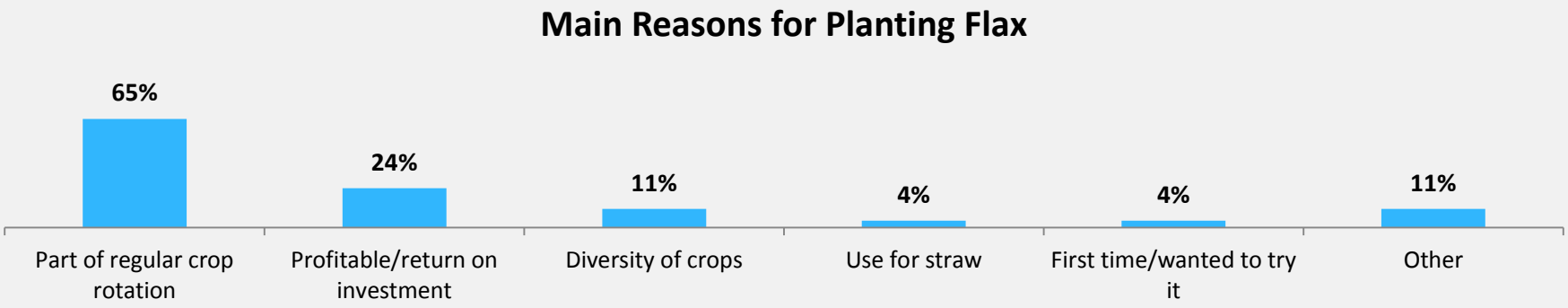
Executive Summary – Current Producers

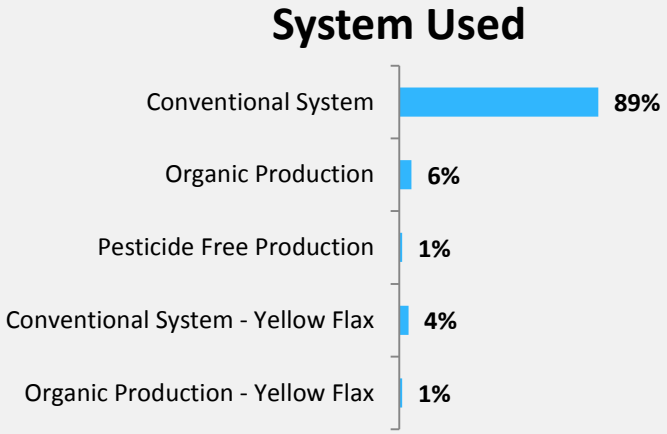
Yield Impact of Major Management Practices			
Category	**Details**	**Count**	**Average**
Seeding Rate	31-40 lbs/acre	23	28.7
	41/50 lbs/acre	27	27.3
	50-60 lbs/acre	9	32.9
	> 61 lbs/acre	5	24.2
Seeding Depth	< 1 inch	31	29.7
	1-2 inches	40	27.0
	> 2 inches	1	25.0
Packing	Packing after seeding	39	29.8
	Do not pack	33	26.1
Crop Establishment (1 = thin stand to 10 = evenly thick stand)	Rated 1 to 4	2	20.0
	Rated 5 to 6	8	29.1
	Rated 7 to 8	40	26.0
	Rated 9 to 10	22	32.4
Inspect Fields for Disease	Inspect fields	47	30.5
	Did not inspect fields	25	23.6
Use of Headline EC Fungicide	Used	20	35.0
	Did not use	19	26.2

Executive Summary – Current Producers

Yield Impact of Major Management Practices – Weed Control			
Category	**Details**	**Count**	**Average**
Use of Authority herbicide	Used	7	32.9
	Did not use	58	28.4
Cultural Weed Control	Used	19	31.1
	Did not use	53	27.1
Pre-Seed Weed Control	Used	28	29.3
	Did not use	44	27.4
Pre-Emergence Weed Control	Used	16	29.2
	Did not use	56	27.8
In-Crop Weed Control	Used	67	28.9
	Did not use	5	17.8
Pre-Harvest Weed Control	Used	22	28.8
	Did not use	50	27.8
Post-Harvest Weed Control	Used	6	31.2
	Did not use	66	27.8

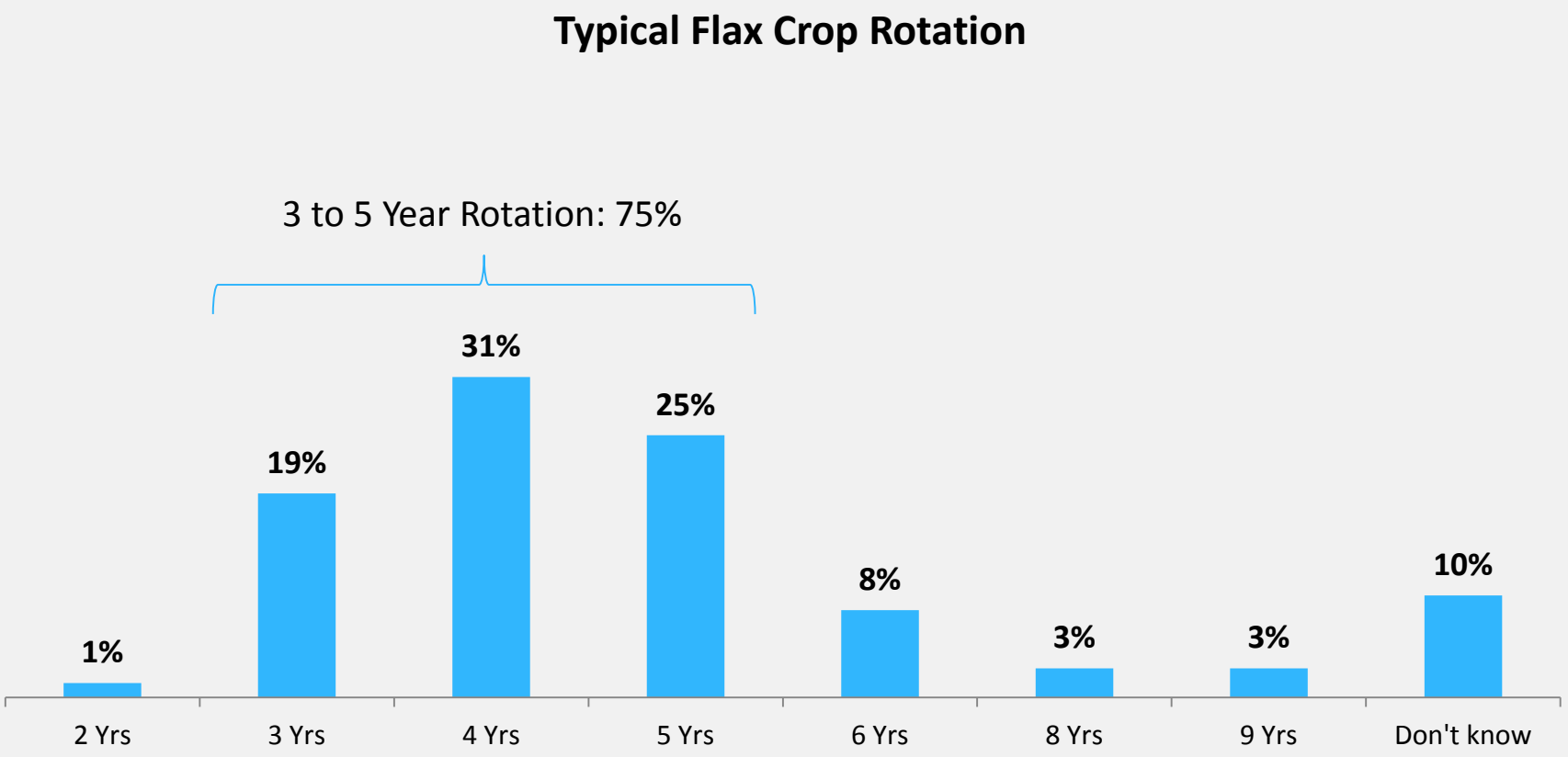
Executive Summary – Current Producers





Long Term Average Yield – Bushels/Acre	Count	Minimum	Maximum	Average
Conventional System	61	14	41	25.6
Organic Production	3	10	25	16.7
Pesticide Free Production	1	19	19	19
Conventional System - Yellow Flax	3	23	30	27.7
Organic Production - Yellow Flax	1	20	20	20

Executive Summary – Current Producers



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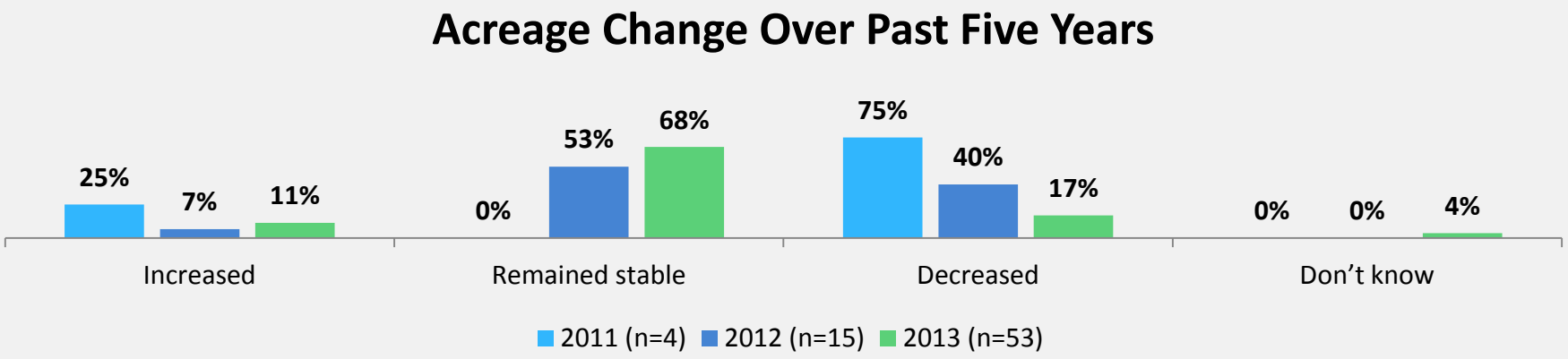

Acreage Decreased Crops Being Grown Instead of Flax	
2013	Barley, soybeans
	Canola (2)
	corn
	Peas, wheat, canola, soybeans
	Soybeans (2)
	Soybeans and corn
	Soybeans and hemp
2012	Corn
	Edible beans and soybeans
	More canola
	Soybeans (2)
	Soybeans, Canola
2011	Oats, canola, wheat or mustard
	Wheat and Canola
	Wheat, canola and peas

Acreage Increased Crops Being Grown Less Of	
2013	Depends on what happens at the time and rotation
	Hay
	We have expanded our farm
	Wheat (2)
	Wheat and canola
2012	Canola
2011	Well less alfalfa

Executive Summary – Current Producers

Advantages & Disadvantages To Growing Flax

Biggest Advantages to Growing Flax	2011 (n=4)	2012 (n=15)	2013 (n=53)
Crop rotation/diversity	50%	60%	66%
Good return on investment/low inputs	25%	27%	47%
Longer harvest time	0%	20%	9%
Low maintenance/easy to harvest	0%	13%	8%
Suitable 'cover' crop	0%	7%	6%
Other	0%	7%	9%
Don't know/no comment	25%	0%	2%
None	0%	0%	2%

Biggest Disadvantages to Growing Flax	2011 (n=4)	2012 (n=15)	2013 (n=53)
Straw management	75%	20%	36%
Weed control	0%	27%	30%
Inconsistent/low yield	0%	33%	19%
Hard on combine	25%	0%	15%
Not economical/no profit	0%	27%	15%
Weather conditions	25%	13%	11%
Late harvest	25%	0%	8%
Other	0%	13%	9%
Don't know/no comment	0%	0%	2%
None	0%	7%	4%

Executive Summary – Current Producers

Current Agronomic Information Sources

Flax Marketing/Agronomic Information Sources	2011 (n=4)	2012 (n=15)	2013 (n=53)
Industry/Independent agronomist	50%	60%	47%
Manitoba Flax Growers Association	0%	47%	43%
Provincial government extension services	0%	20%	26%
Flax Council of Canada	25%	20%	17%
Agriculture and Agri-Food Canada	0%	27%	17%
Saskatchewan Flax Development Commission	0%	13%	6%
Other	75%	33%	47%

Agronomic Information Preferences

Information Preference	2011 (n=4)	2012 (n=15)	2013 (n=53)
Winter meetings	0%	40%	51%
Website	25%	40%	49%
Field days	0%	20%	32%
Government agency departments	0%	7%	21%
Email	75%	47%	55%
Other	25%	33%	23%

Executive Summary – Current Producers

Agronomics that Need Improvement

Flax Agronomics that Need Improvement	2011 (n=4)	2012 (n=15)	2013 (n=53)
Yield	50%	33%	53%
Yield Stability	0%	27%	15%
Better weed control options	25%	20%	25%
Less fibre in straw	50%	27%	15%
Herbicide tolerance	0%	0%	6%
Earlier maturity	0%	0%	15%
Other	100%	73%	53%

Other - 2011
Straw management
Prices
Get rid of the flax tax
Better stands

Other - 2012
Bring back Post instead of the current flax max as it is too hard on the crop
Deeper rooted and moisture tolerant
Disease resistance seed and a website for best practices for agronomy
Don't know
Made more water tolerant to handle water better
Marketing and round up ready flax
No comment
No GMO products
Price
Standability and management of straw
Straw management, weed competitiveness.

Other - 2013
Better herbicides (n=2)
Better varieties and marketing
Better varieties with minimal input
Breeding, herbicide options and crop fertility
Chemicals
Compostable straw to save on machinery
Consistant crop hardiness
Disease identification and the causes
Don't know (n=2)
Higher demand for flax
Market information
Marketing availabilty
More emphasis on flax as in marketing overseas and more food. It's very underrated and published more
More markets for flax and faster disposal
More value for the straw
Nothing (n=3)
Response to ferilizer to increase yield
Standabliity, more profit , wild oat herbacide
Standablilіy
Straw management
Testing the seed to ship overseas and we have to pay for the testing and with no difference in the price
The straw is worth something
Volunteer flax the year
Weed control for Group 1 Wild Oats and guaranteed straw acceptance