Competitiveness of Rapeseed vs. Soybeans
The Western Canadian Case

Dr. Joerg Zimmermann, P.Ag.
agri benchmark Cash Crop team Canada
ZimAg Advisors Ltd.

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About me

Independent Farm Business Advisor within the AGRI-TREND network working mainly with farmers in Western Canada on
=> Strategic Planning
=> Business Planning
=> Farm Business Projections
=> Benchmarking of individual farms
=> Peer-Group Facilitation

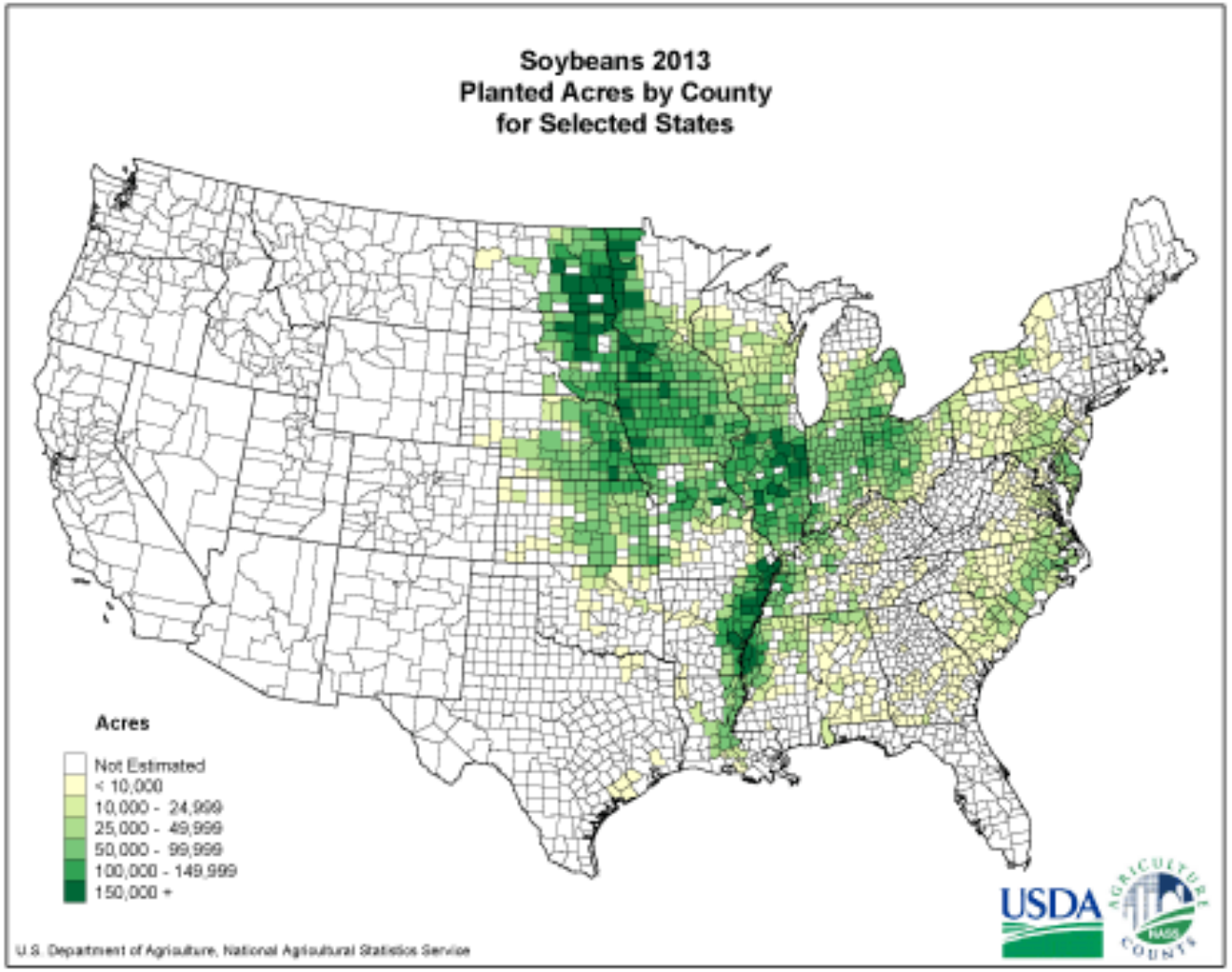
Other work:
=> international benchmarking (agri benchmark)
=> international consulting projects (Eastern Europe, CIS)
=> Regional Consultant for Input Capital (Canola Streaming)

Overview

1. Development of rapeseed and other oilseeds in the Region
2. Overview of Typical Farms in the Region
3. Competitiveness of rapeseed vs. other oilseeds
4. Non-monetary considerations rapeseed vs. other oilseeds
5. Conclusions and Outlook

Map of Canada & Canola Growing areas
The “invasion” from the south …

Soybeans in Western Canada
The “invasion” from the south …



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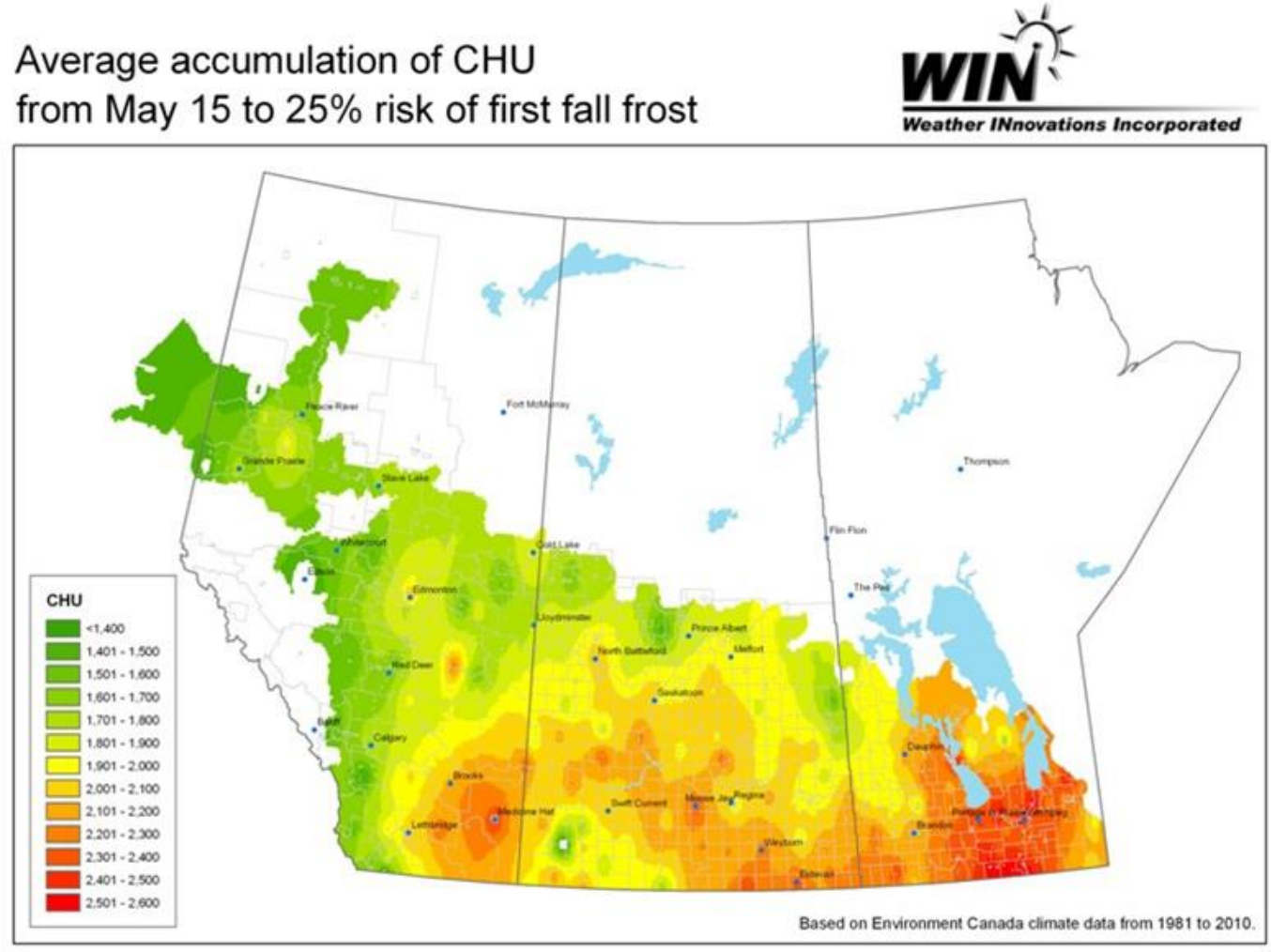
Soybeans in Western Canada
The “invasion” from the south …



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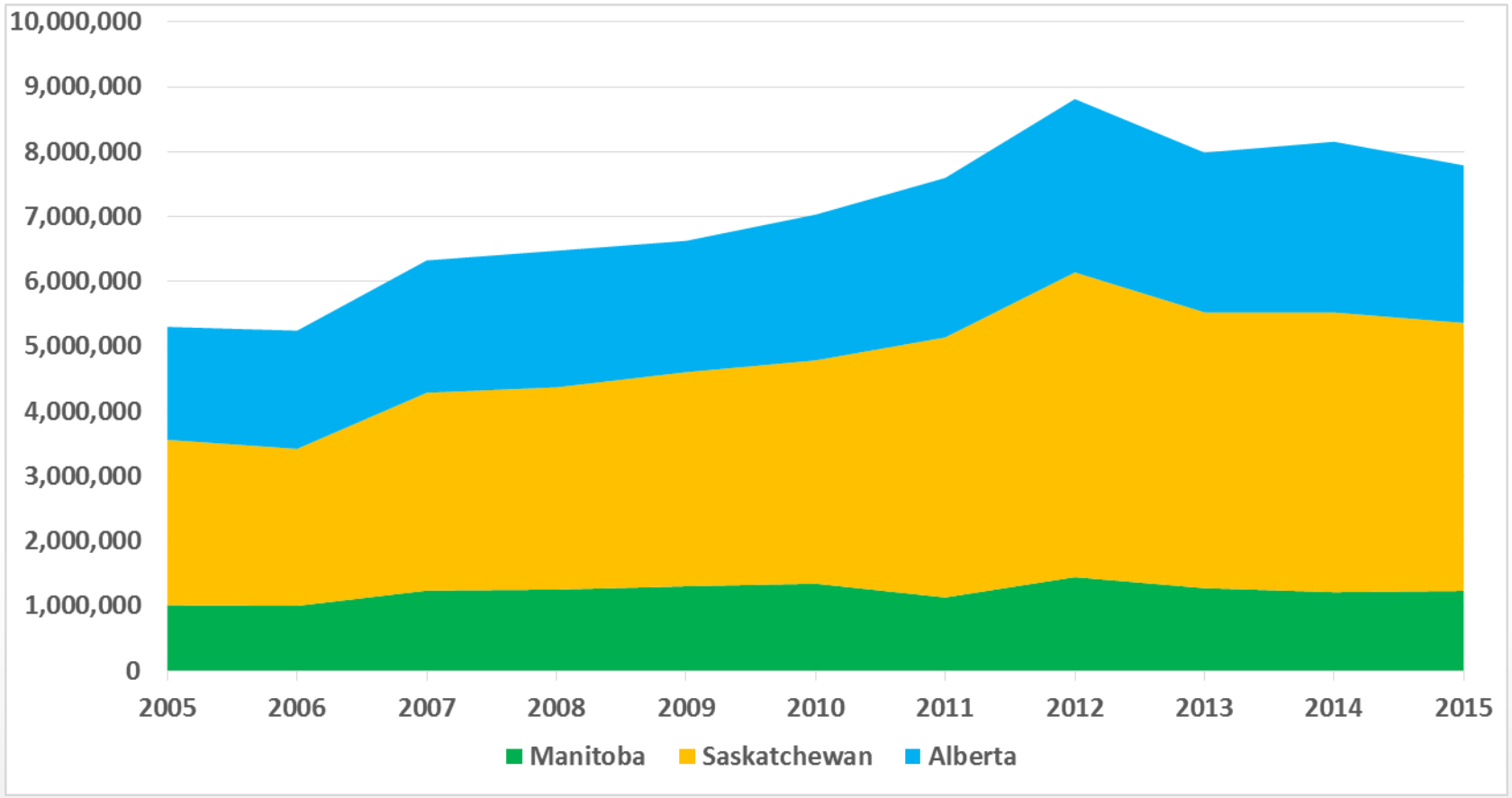
Development of Canola Acreage (ha)



Source: StatCan

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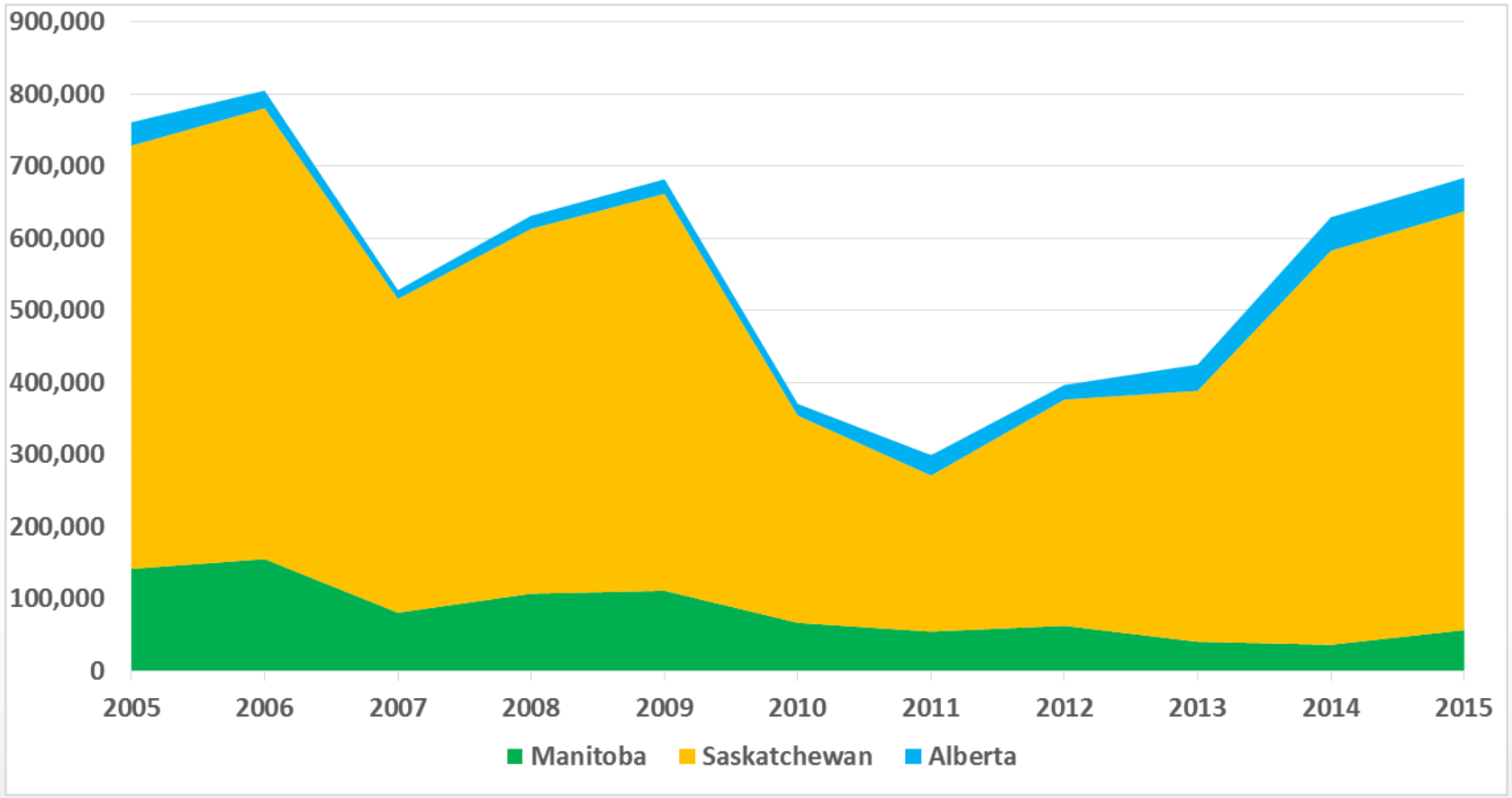
Development of Linseed Acreage

(ha)



Source: StatCan

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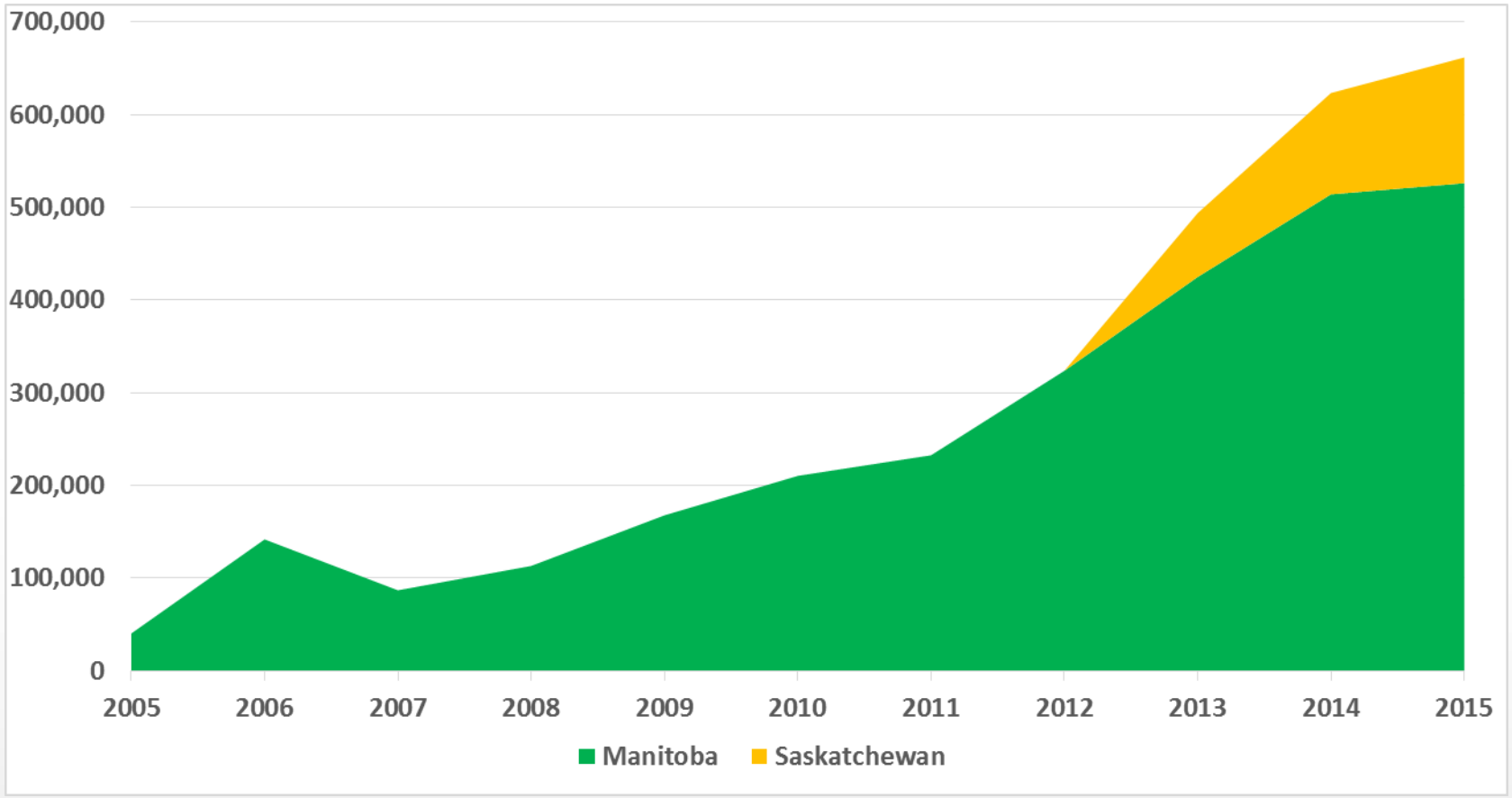
Development of Soybean Acreage

(ha)



Source: StatCan

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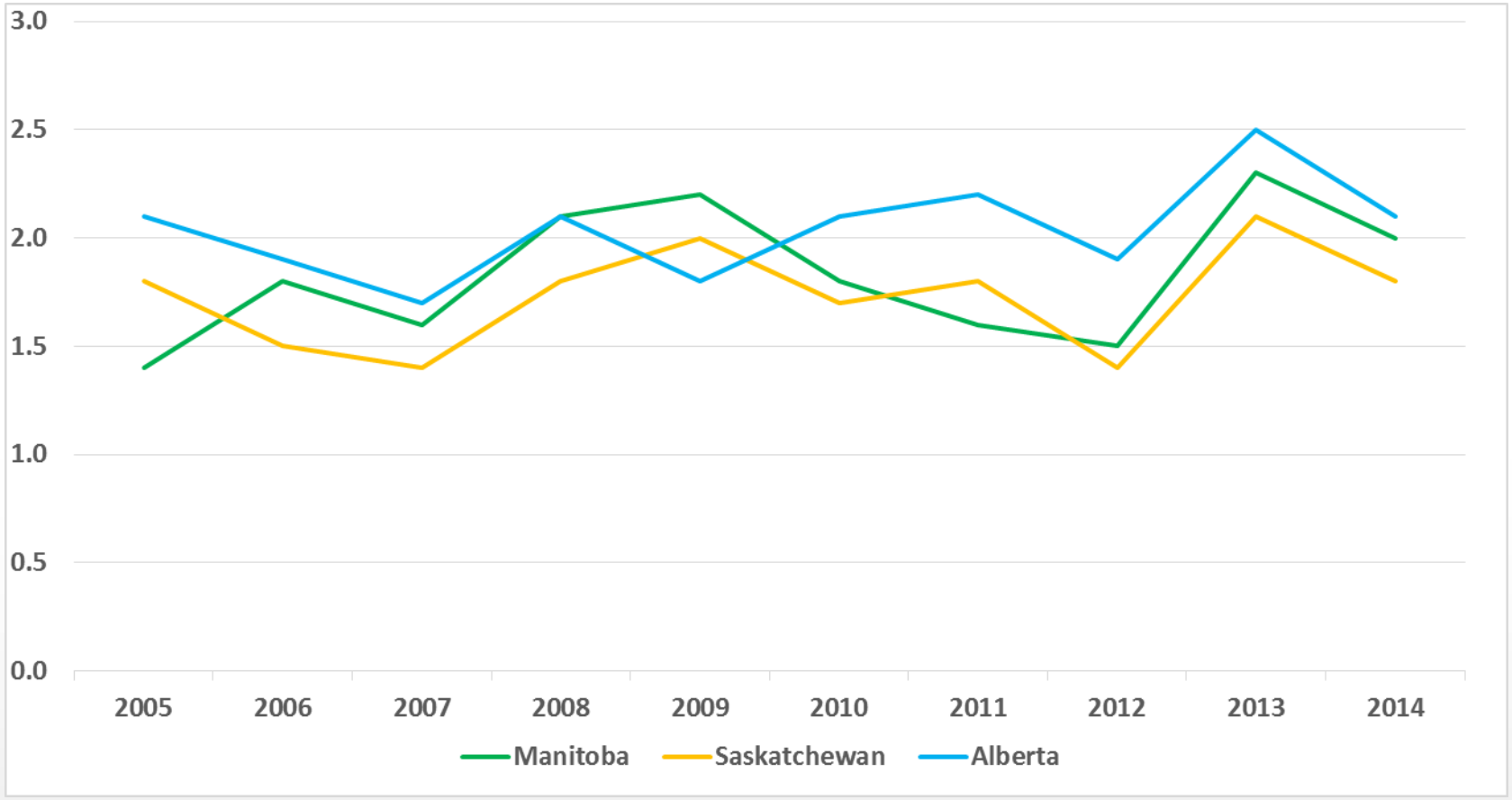
Development of Canola Yields (t/ha)



Source: StatCan

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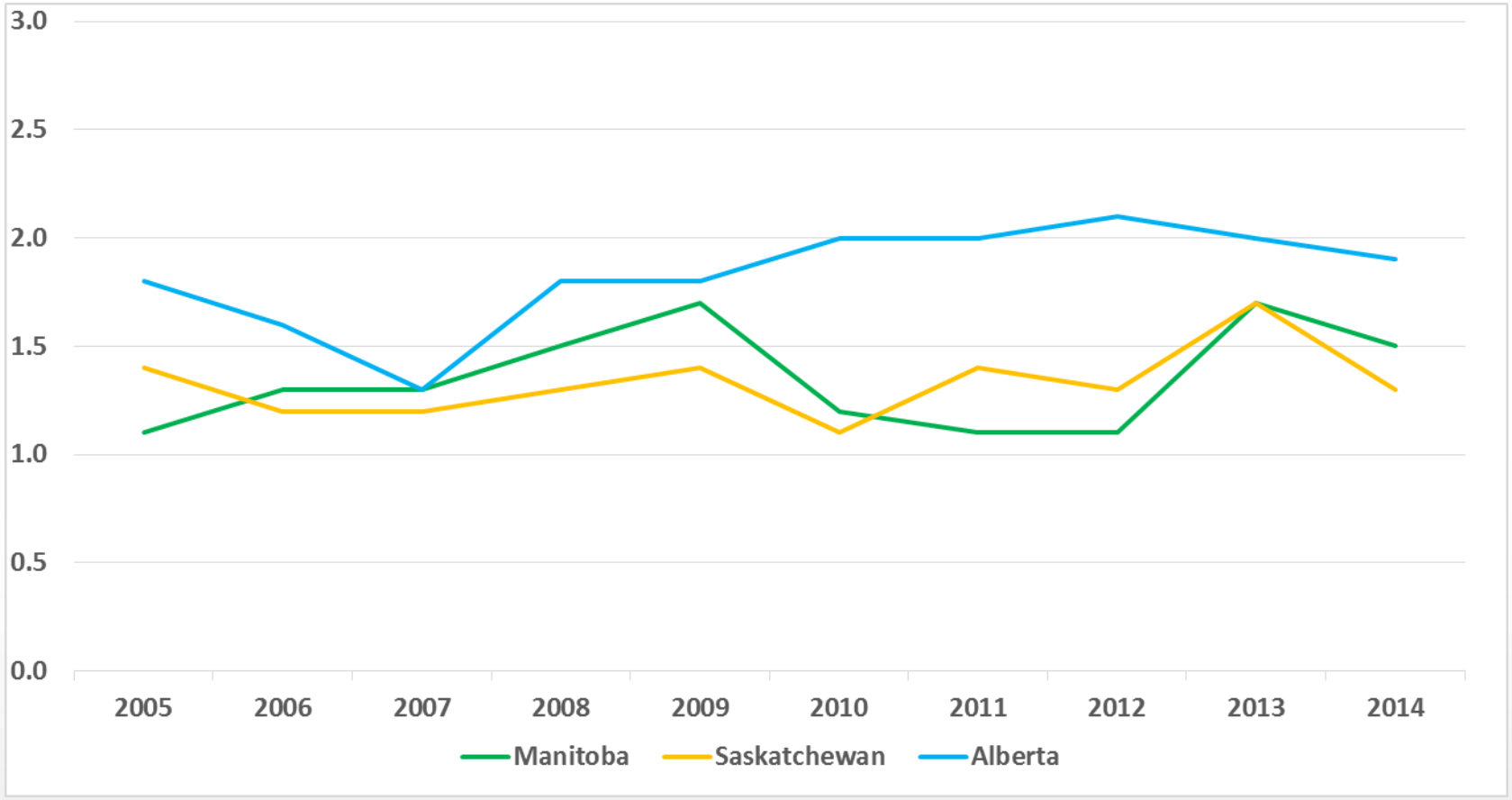
Development of Linseed Yields

(t/ha)



Source: StatCan

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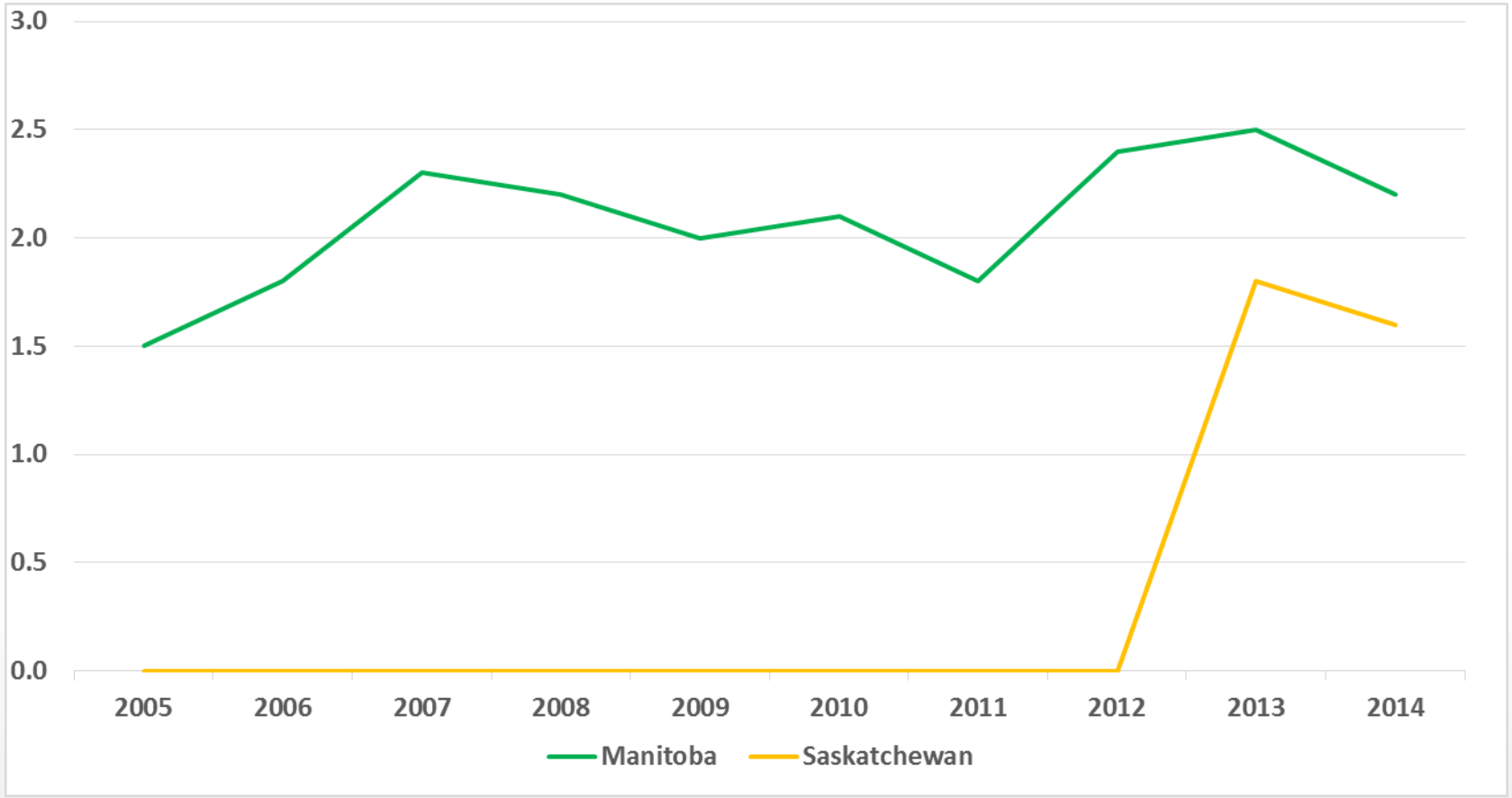
Development of Soybean Yields

(t/ha)



Source: StatCan

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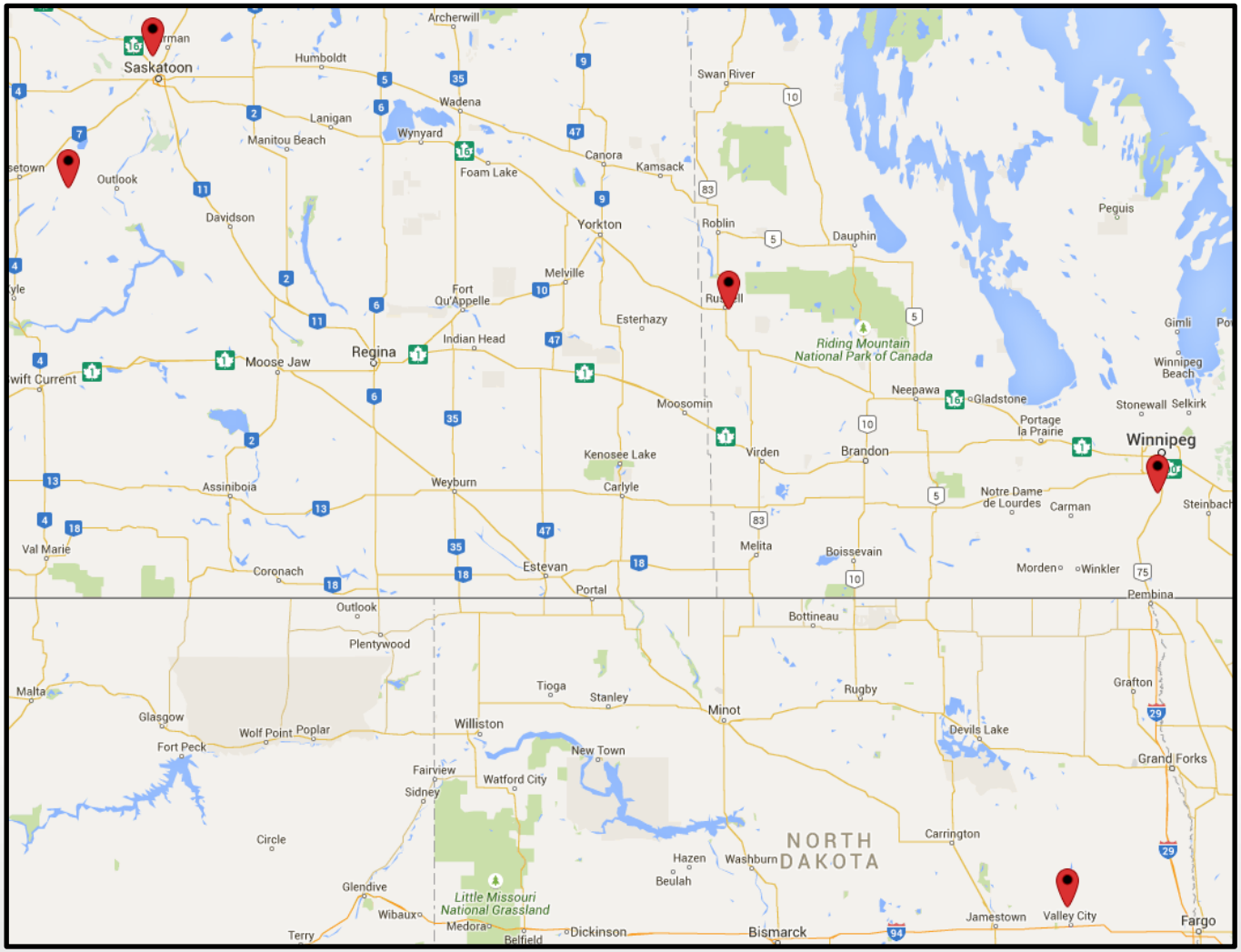
Location of typical Farms



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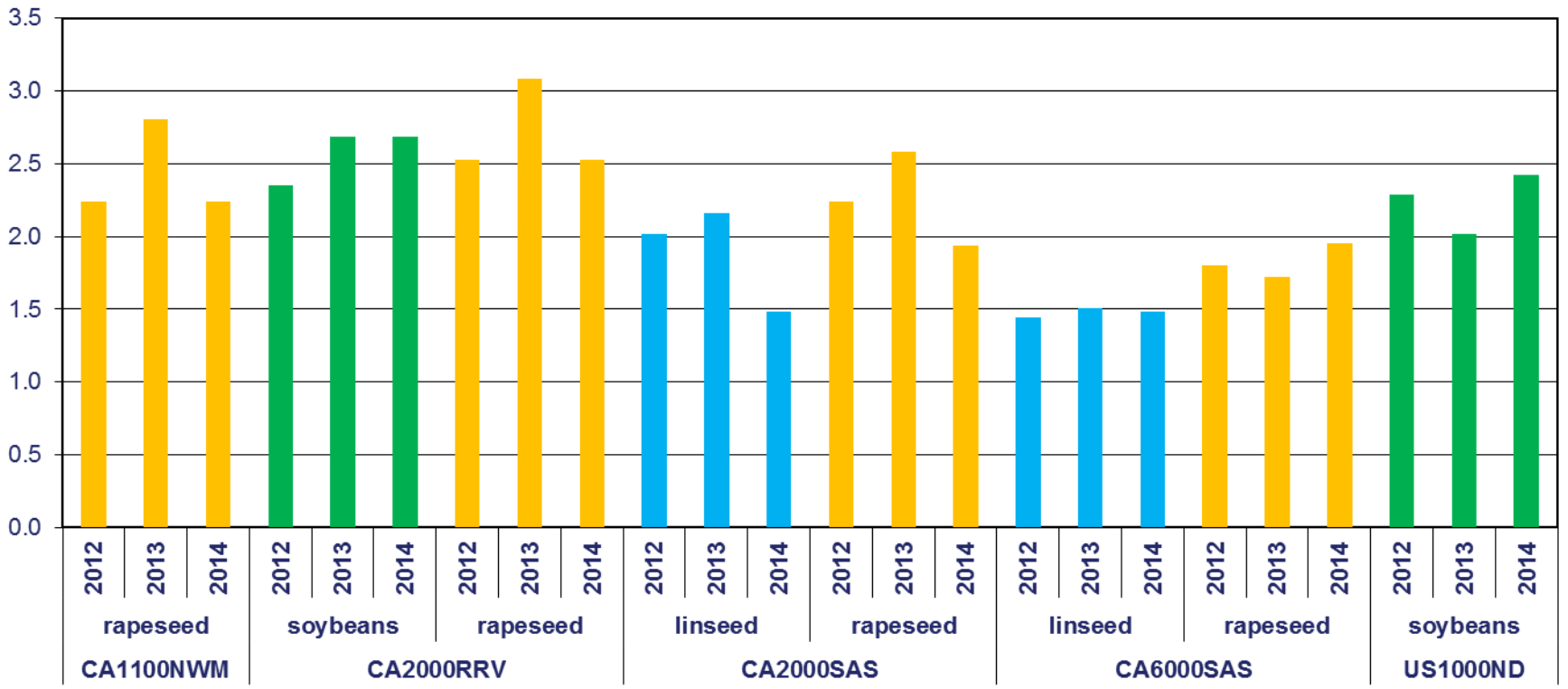
Yield in Rapeseed, Linseed and Soybeans (t/ha)



1. Rapeseed = Spring Oilseed Rape (OSR) / Soybeans / Linseed
2. Rapeseed and Soybean Yields very similar where competing (RRV)
3. Rapeseed and Linseed Yields very similar where competing (SAS)

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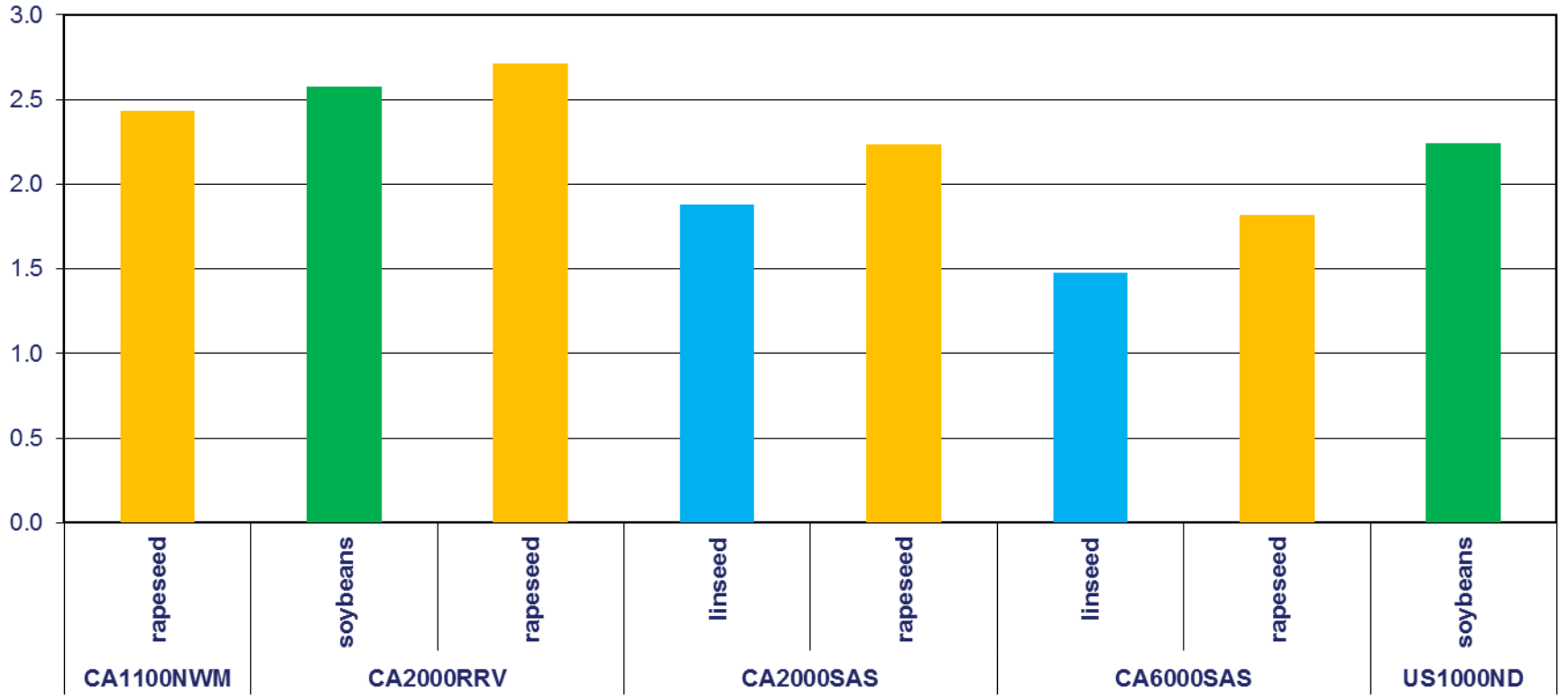
Average Yields Rapeseed & Soybeans (2012-2014, t/ha)



1. Red River Valley (RRV): Rapeseed yields are approx. 0.2 t/ha higher than soybeans yields.
2. Saskatchewan (SAS): Rapeseed yields are approx. 0.8 t/ha higher than linseed yields.
3. North Dakota (ND): Soybeans yields are similar to RRV - other crop: mainly corn.

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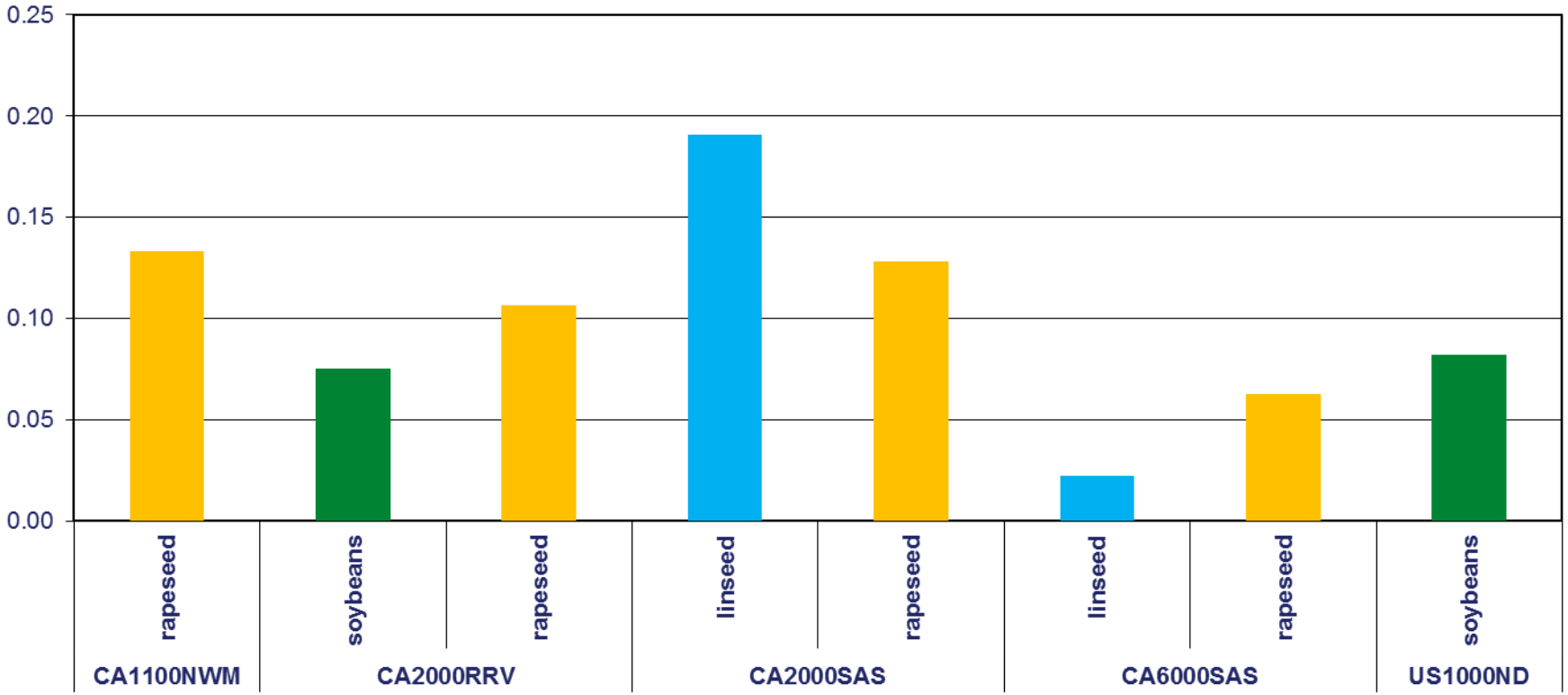
Variation in Yields (coefficient of variation)



1. Soybeans seem to have lower production risks than rapeseed (RRV)
2. Linseed production risk differ significantly within the regions (SAS)

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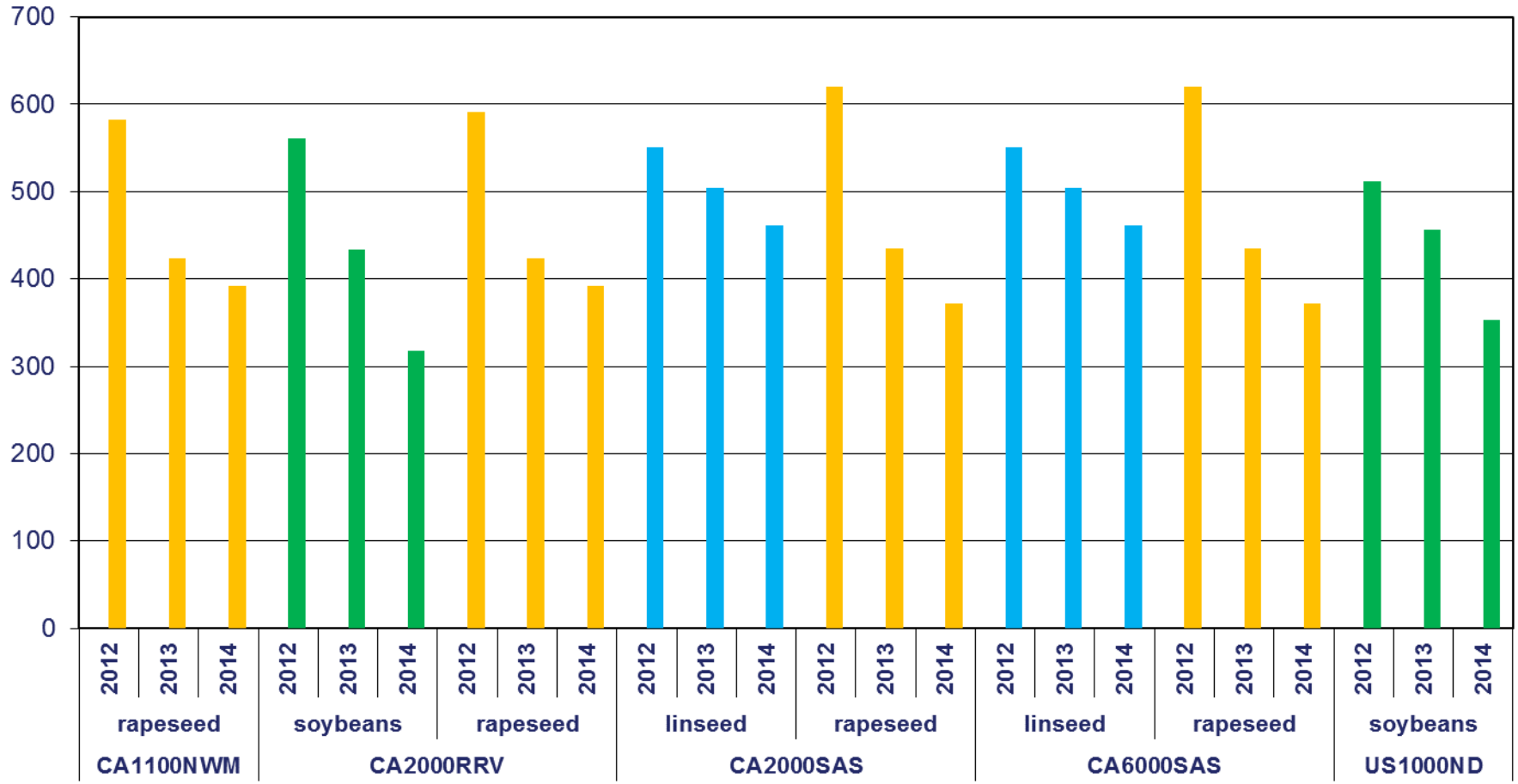
Prices for Rapeseed, Linseed and Soybeans

(USD/t)



1. All commodity prices decreased
2. Rapeseed and Soybeans had a sharper decrease in price than linseed (=> linseed becomes more favorable)

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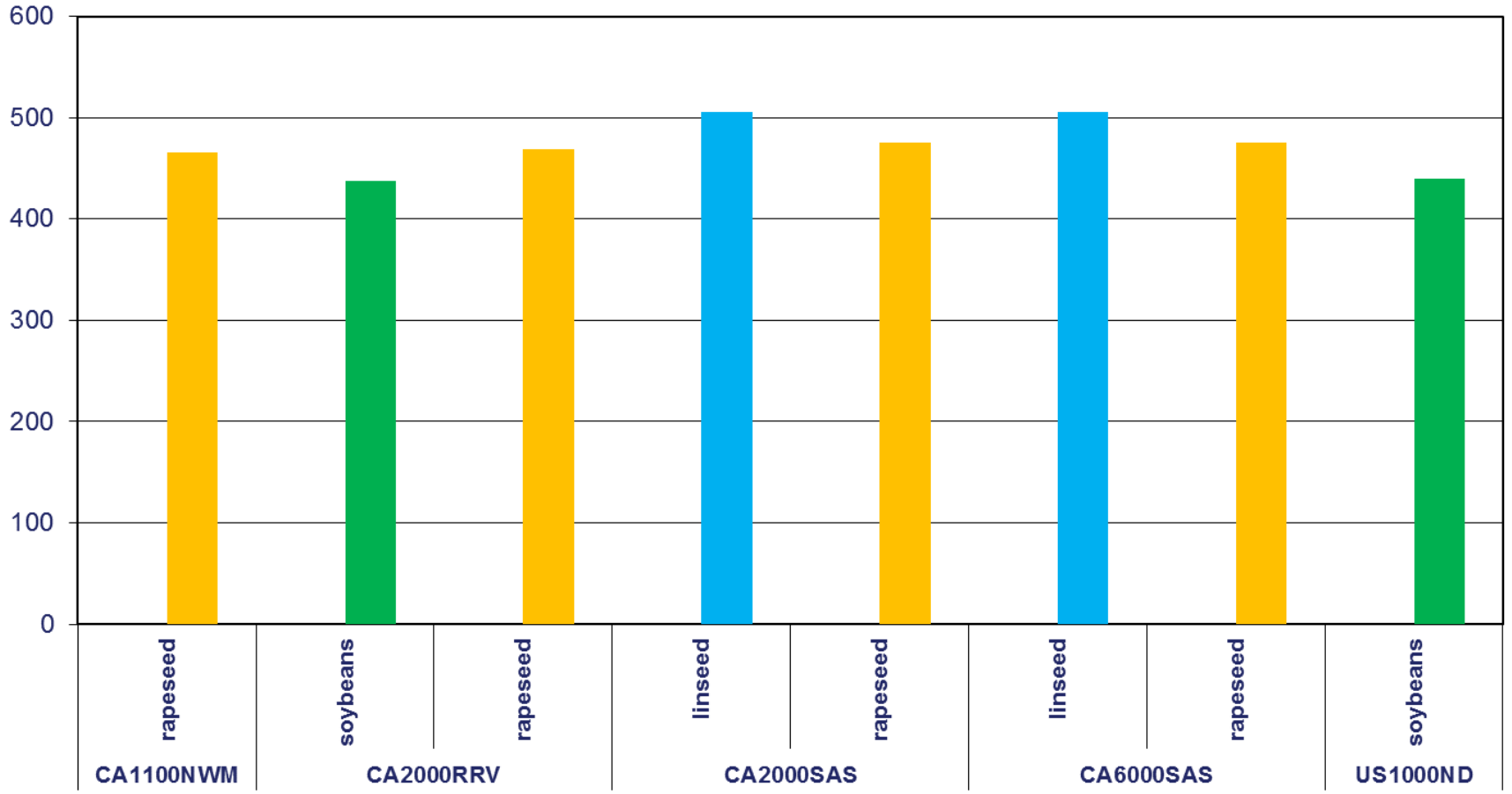
Average Prices for Rapeseed, Linseed and Soybeans

(2012-2014, USD/t)



1. No major differences in rapeseed vs. soybean vs. linseed prices

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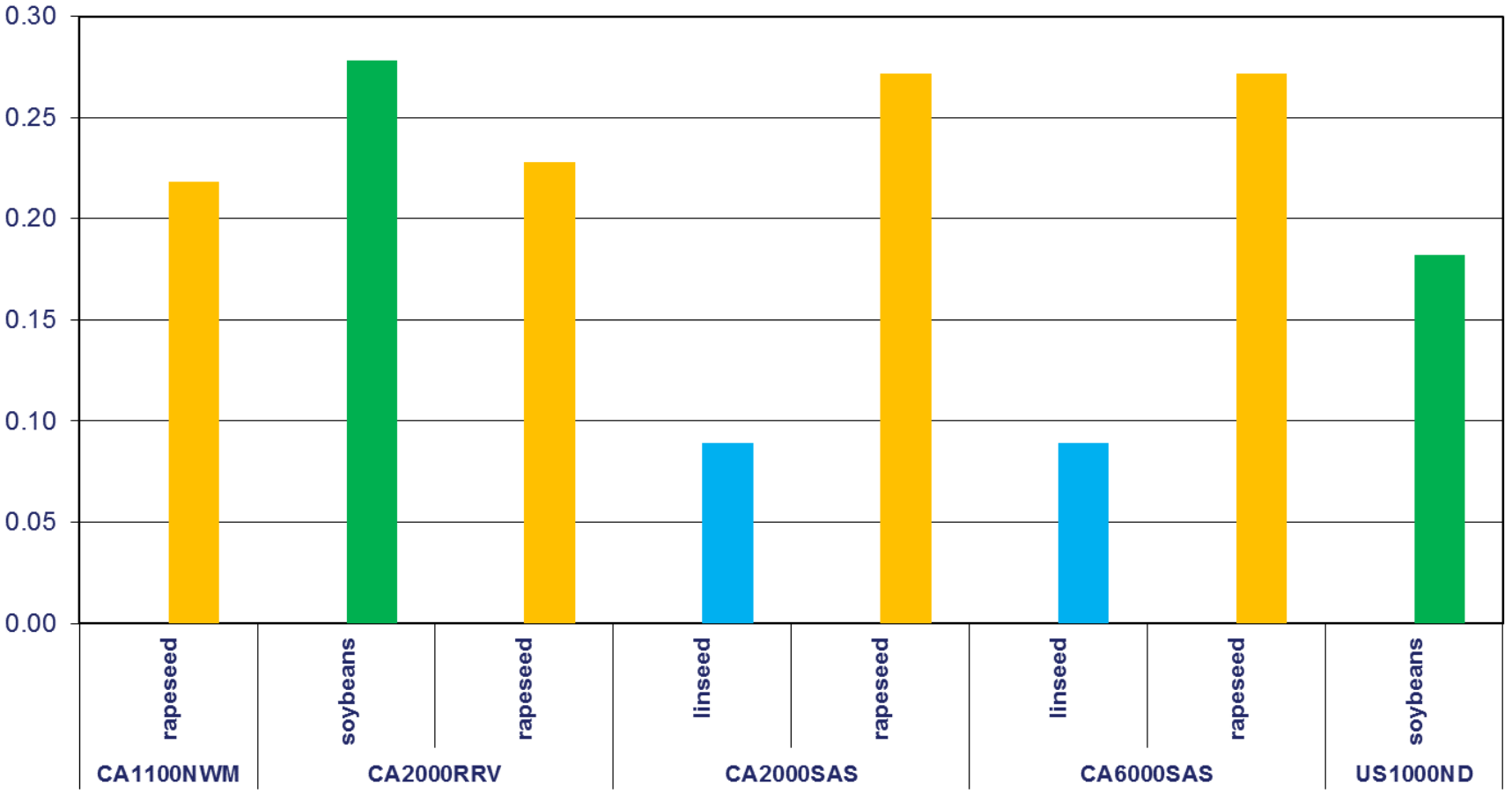
Variation in Prices (coefficient of variation)



1. Price risks in soybeans and rapeseed are about the same
2. Linseed is not as volatile than soybeans and rapeseed

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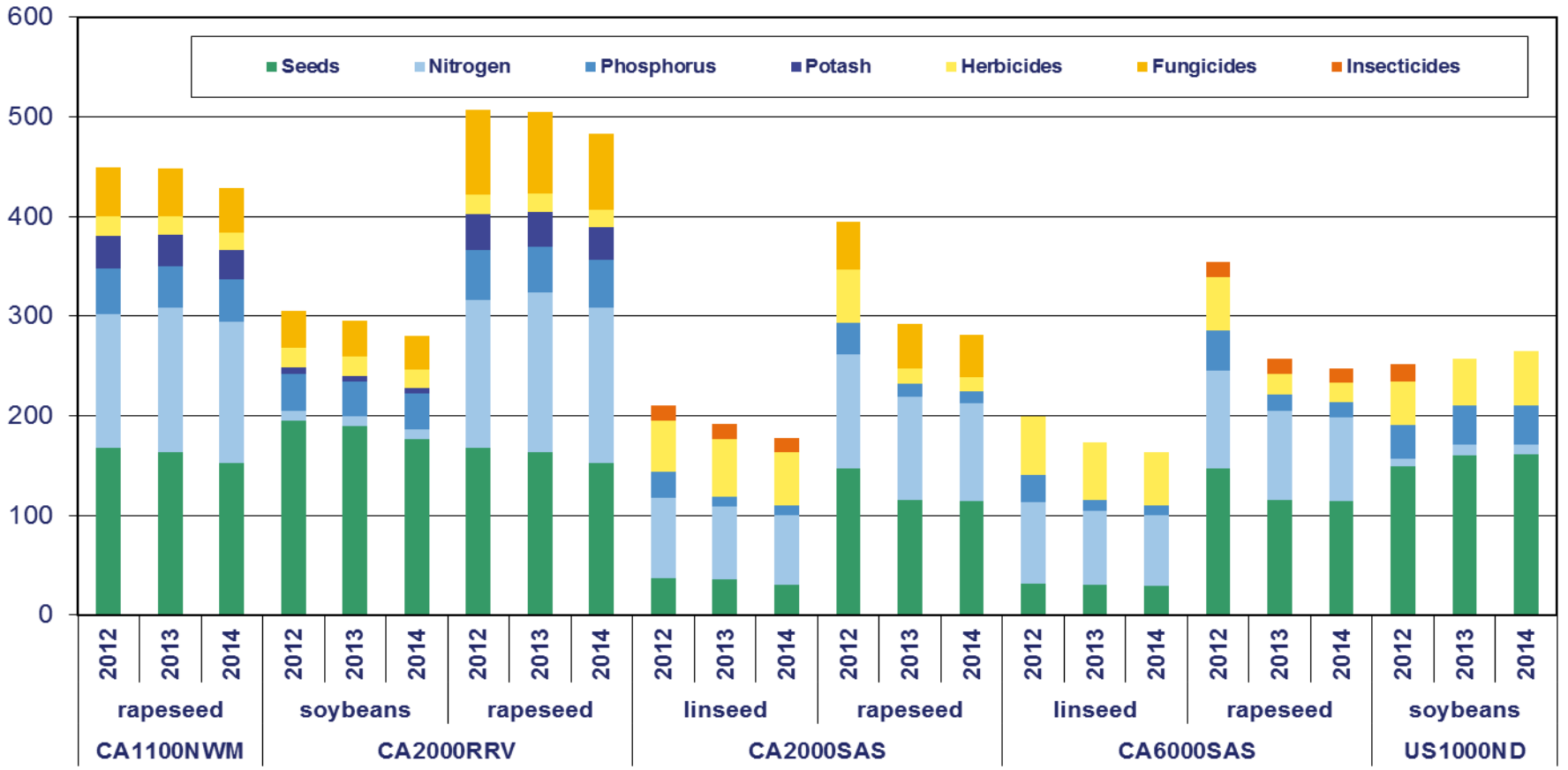
Comparison Direct Cost (USD/ha)



1. Generally Linseed and Soybeans require less inputs as compared to where they compete with rapeseed

   => **linseed and soybeans represent a lower risk if weather does not cooperate and need less liquidity**

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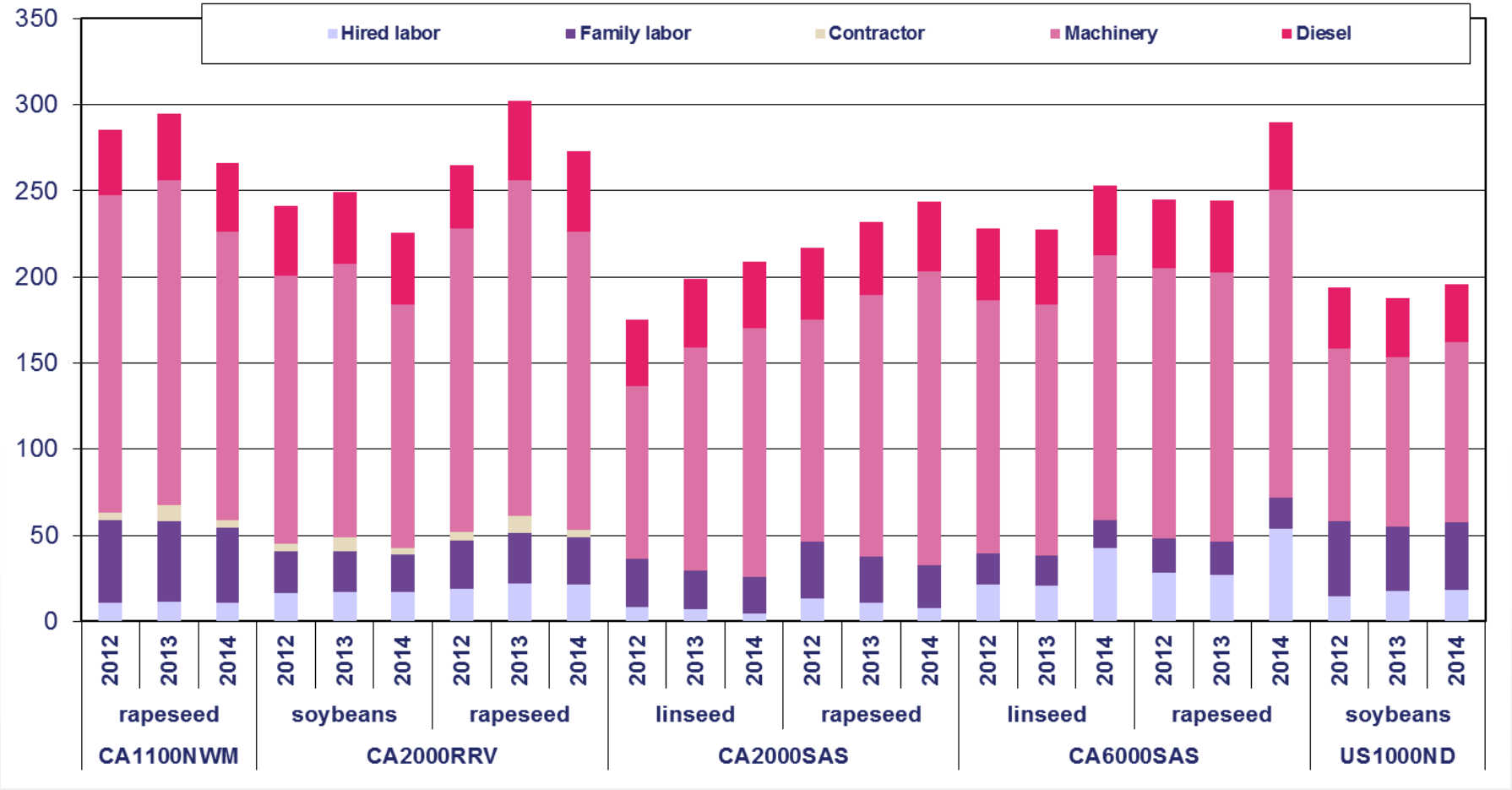
Comparing Operating Cost (USD/ha)



1. soybeans and linseed are usually directly combined, rapeseed is swathed and then combined

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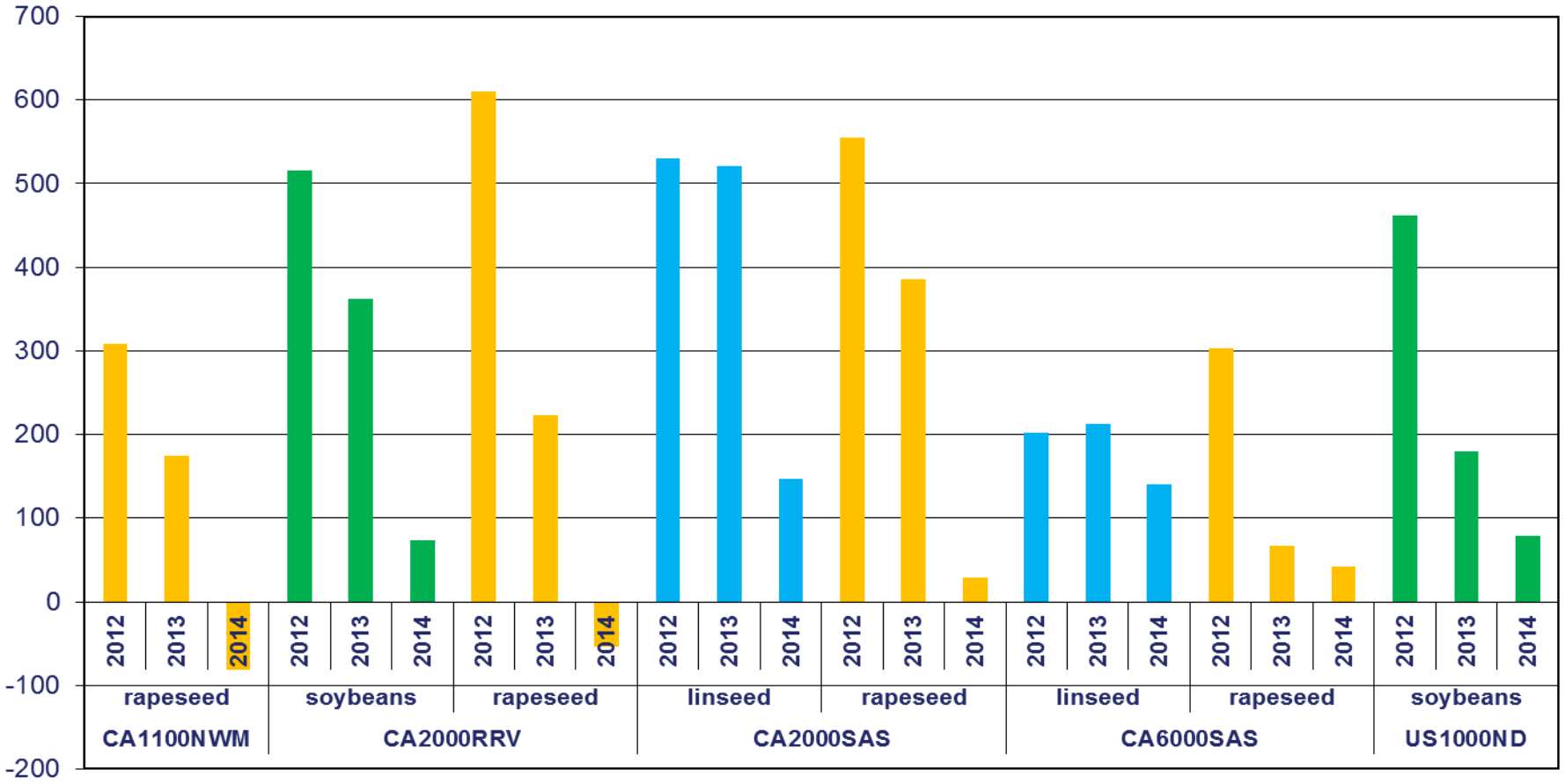
Annual Return to Land (USD/ha)



1. In the past, rapeseed outcompeted the other oilseeds (combined yield and price advantage)

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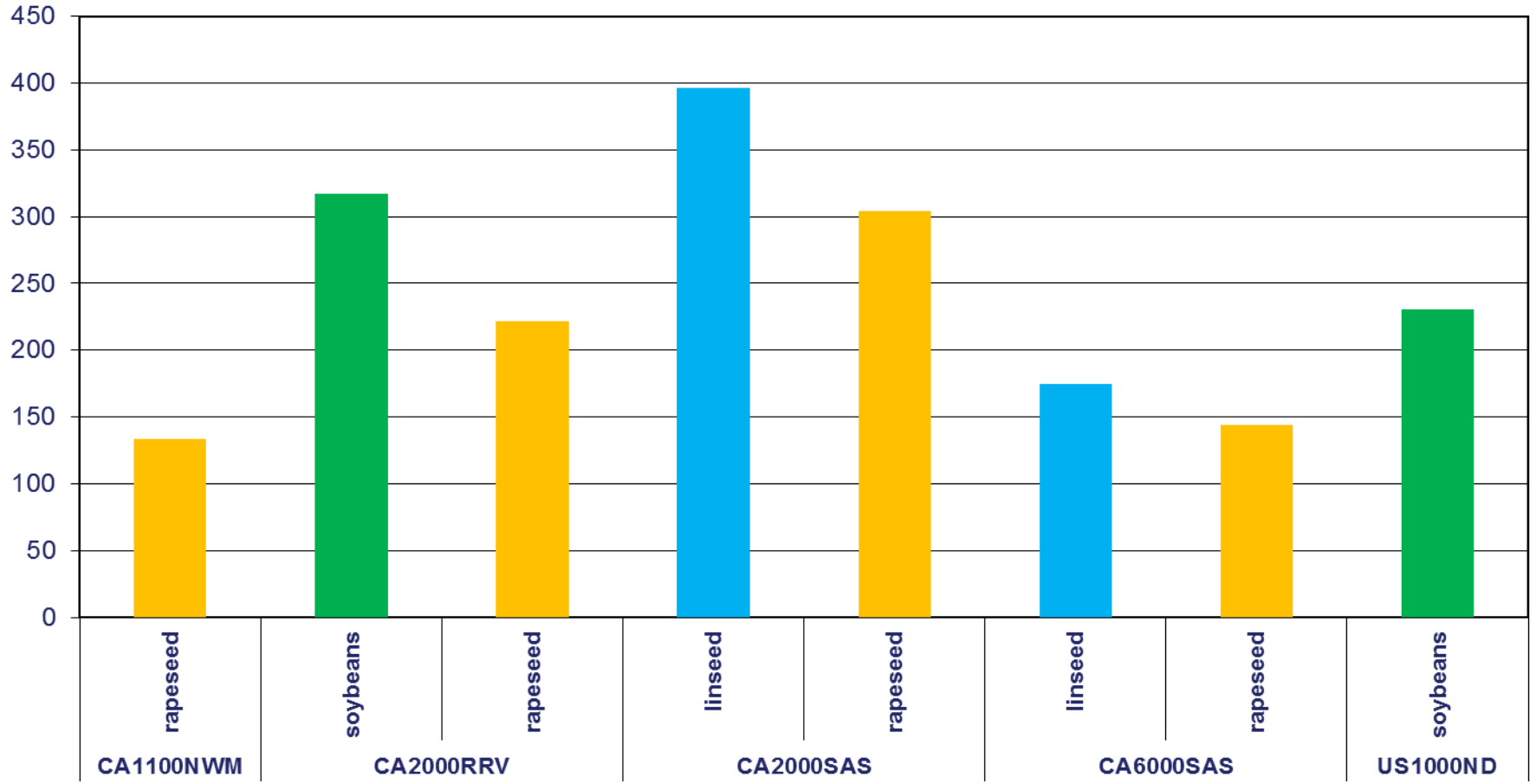
Average Return to Land (2012-2014, USD/ha)



1. On average the other oilseeds outcompeted rapeseed

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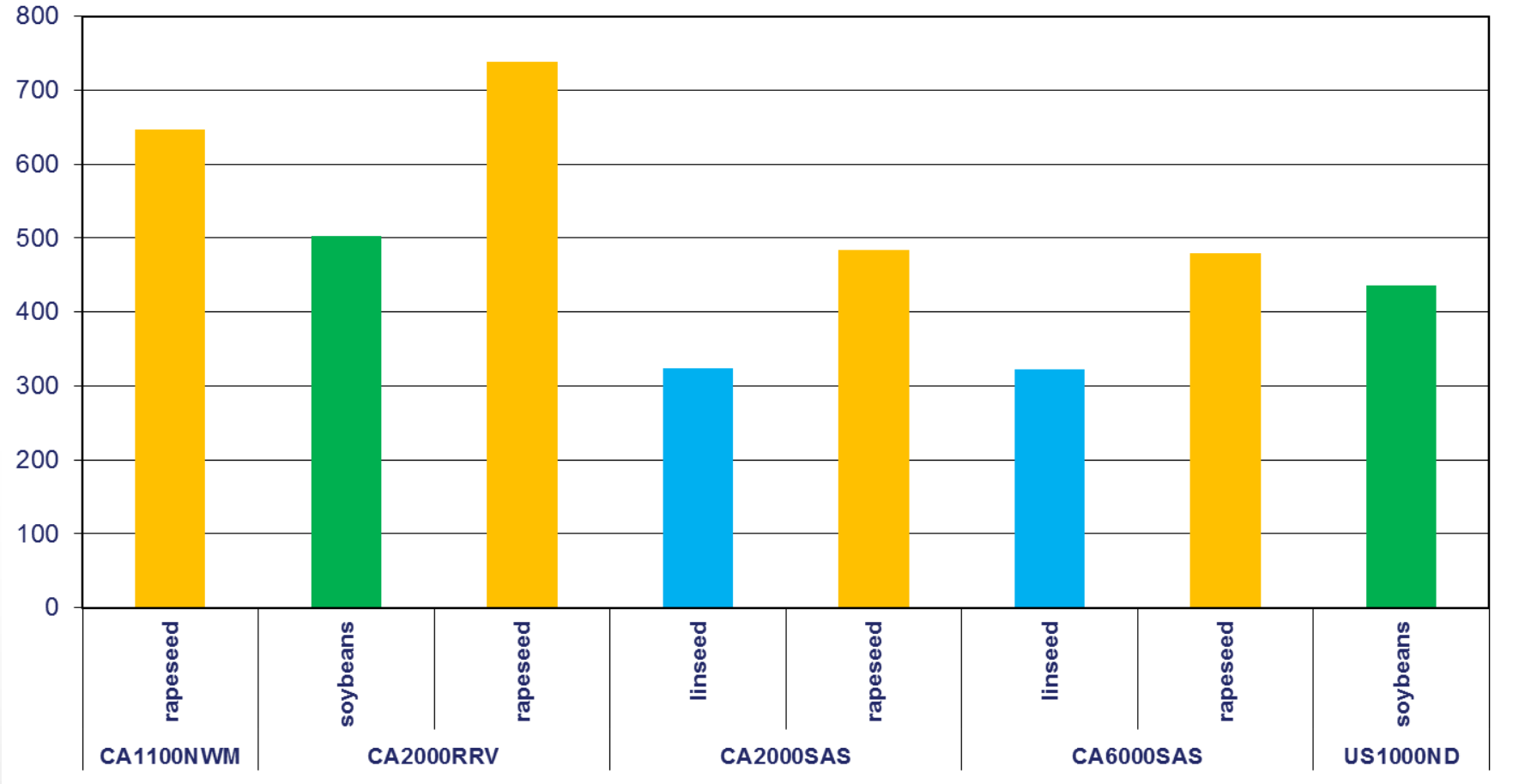
Average Liquidity Needs for Inputs (2012-2014, USD/ha)



1. Within the regions rapeseed requires higher liquidity than competitive crops (soybeans/linseed)
2. Rapeseed is therefore a higher risk crop

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Other Considerations (2)

1. Soybeans can cope better with wet conditions
2. Soybeans prolong the cropping season (later seeding, later harvest)
   => better use of machinery & time
3. Soybeans may require special equipment (land rollers, specialized combine headers)
4. Soybeans are more susceptive to early & late frosts
5. Soybeans are less prone to heating in storage

Other Considerations (2)

1. Soybeans & Linseed in the crop mix ease up rotations with a huge share of canola
   => less overall risk
   => less disease stress
   => different herbicide groups

2. Specialized Linseed markets existing (US health food)
   => increased farm gate prices

3. Specialty Canola (Nexerra)
   => increased farm gate prices, but often lower yields

Conclusions

1. Soybeans & Linseed require less inputs than rapeseed
   => less liquidity needs
   => less risky (i.e. current drought in parts of SK and MB)

2. Economic performance of rapeseed vs. other oilseed driven by
   => yield advantage (so far rapeseed is ahead) and
   => price advantage

3. Local soybean processing facilities are being developed or are in the feasibility stage
   => farm gate price soybeans will go up

4. Expected future developments
   => Soybeans moving more into Saskatchewan (short season)
   => Northern regions will most likely grow rapeseed/linseed

Thank you for your interest in *agri benchmark*.

Dr. Joerg Zimmermann
- ***agri benchmark*** Cash Crop team Canada -

phone	+1 (204) 285-9660
mobile	+1 (204) 898-5478
e-mail	joz@zimagadvisors.com
internet	www.agribenchmark.org
	www.ti.bund.de

Soybeans cope better with wet conditions

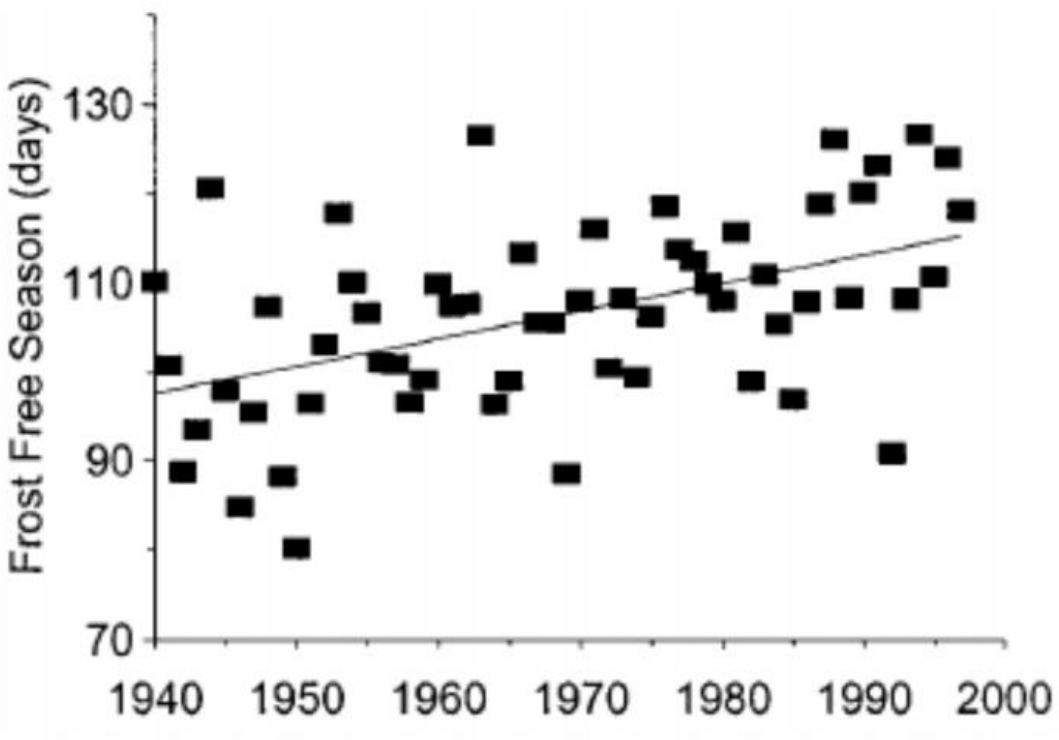
ADDITIONAL MATERIAL

NOT USED IN FORMAL PRESENTATION!

Soybeans in Western Canada

Soybeans in Western Canada
The “invasion” from the south …

Frost-Free Period has been Increasing
Significant Inter-annual Variation



Annual frost-free period (using a 0°C benchmark) from 1940 to 1997 using average temperatures from 12 weather stations in western Canada (Cutforth et al. 2004, Can. J. Plant Sci. 84: 1085–1091).

Development of Canola, Linseed & Soybeans in Western Canada

GEOGRAPHY	TYPE OF CROP	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
ACREAGE in ha												
Manitoba	*Canola*	1,011,700	1,003,600	1,238,300	1,254,500	1,305,100	1,345,600	1,133,100	1,446,800	1,276,800	1,214,100	1,234,300
	Soybeans	40,500	141,900	87,000	113,300	167,900	210,400	232,700	323,700	424,900	514,000	526,100
	Linseed	141,600	155,200	80,900	107,200	111,300	66,800	54,600	62,700	40,500	36,400	56,700
Saskatchewan	*Canola*	2,549,500	2,418,900	3,049,300	3,116,100	3,298,200	3,439,800	4,006,400	4,694,400	4,249,200	4,309,900	4,127,800
	Soybeans	..	..	..	..	..	..	..	..	68,800	109,300	135,600
	Linseed	586,800	625,200	435,000	505,900	550,400	287,300	216,500	313,600	348,000	546,300	580,700
Alberta	*Canola*	1,740,100	1,821,100	2,037,600	2,104,400	2,023,400	2,246,000	2,457,100	2,670,900	2,460,500	2,630,500	2,428,100
	Linseed	32,400	24,400	12,100	18,200	20,200	16,200	28,200	20,200	36,400	46,500	46,500

Source: StatCan

Development of Canola, Linseed & Soybeans in Western Canada

GEOGRAPHY	TYPE OF CROP	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
PRODUCTION in t												
Manitoba	*Canola*	1,261,000	1,825,700	1,950,400	2,576,400	2,891,700	2,215,800	1,746,300	2,100,100	2,871,200	2,313,300	..
	Soybeans	55,800	252,300	202,800	242,200	321,100	435,400	413,700	770,200	1,068,200	1,107,700	..
	Linseed	144,800	193,000	105,400	161,300	177,800	76,800	54,600	66,000	66,000	53,300	..
Saskatchewan	*Canola*	4,456,500	3,696,800	4,154,900	5,629,100	6,259,600	5,692,600	7,348,200	6,486,400	8,917,600	7,622,600	..
	Soybeans	..	..	..	..	..	..	..	..	118,400	163,300	..
	Linseed	792,500	759,500	511,800	666,800	708,700	311,200	289,600	381,000	584,200	706,200	..
Alberta	*Canola*	3,651,400	3,424,600	3,401,900	4,322,700	3,628,700	4,740,000	5,347,900	5,097,200	5,998,800	5,488,500	..
	Linseed	53,300	36,300	16,300	33,000	28,400	30,500	54,700	41,900	73,700	87,600	..

Source: StatCan

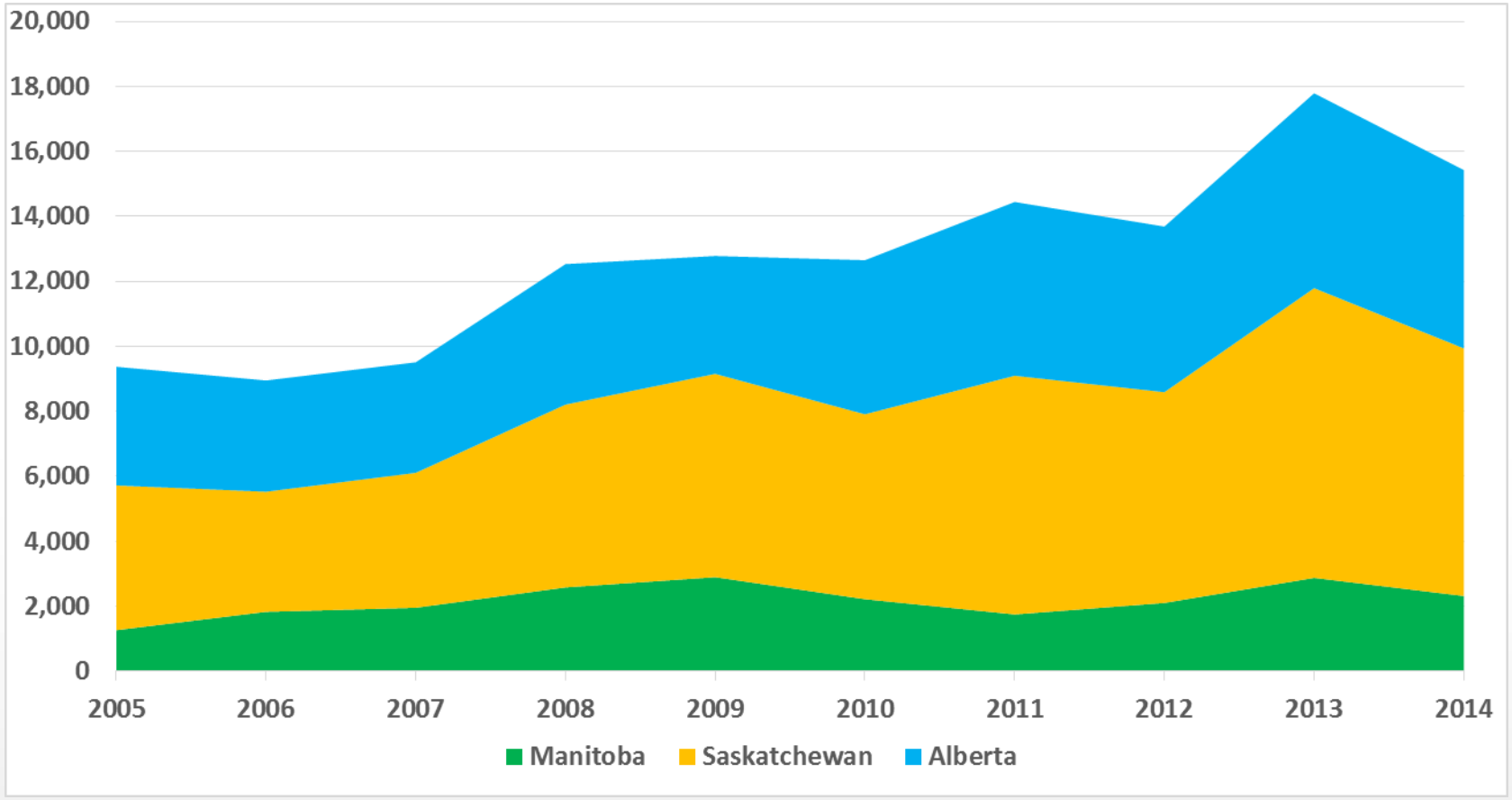
Development of Canola, Linseed & Soybeans in Western Canada

GEOGRAPHY	TYPE OF CROP	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
YIELD in t/ha												
Manitoba	*Canola*	1.40	1.80	1.60	2.10	2.20	1.80	1.60	1.50	2.30	2.00	..
	Soybeans	1.50	1.80	2.30	2.20	2.00	2.10	1.80	2.40	2.50	2.20	..
	Linseed	1.10	1.30	1.30	1.50	1.70	1.20	1.10	1.10	1.70	1.50	..
Saskatchewan	*Canola*	1.80	1.50	1.40	1.80	2.00	1.70	1.80	1.40	2.10	1.80	..
	Soybeans	..	..	..	..	..	..	..	..	1.80	1.60	..
	Linseed	1.40	1.20	1.20	1.30	1.40	1.10	1.40	1.30	1.70	1.30	..
Alberta	*Canola*	2.10	1.90	1.70	2.10	1.80	2.10	2.20	1.90	2.50	2.10	..
	Linseed	1.80	1.60	1.30	1.80	1.80	2.00	2.00	2.10	2.00	1.90	..

Source: StatCan

Development of Canola Production

(thousand metric tonnes)



Source: StatCan

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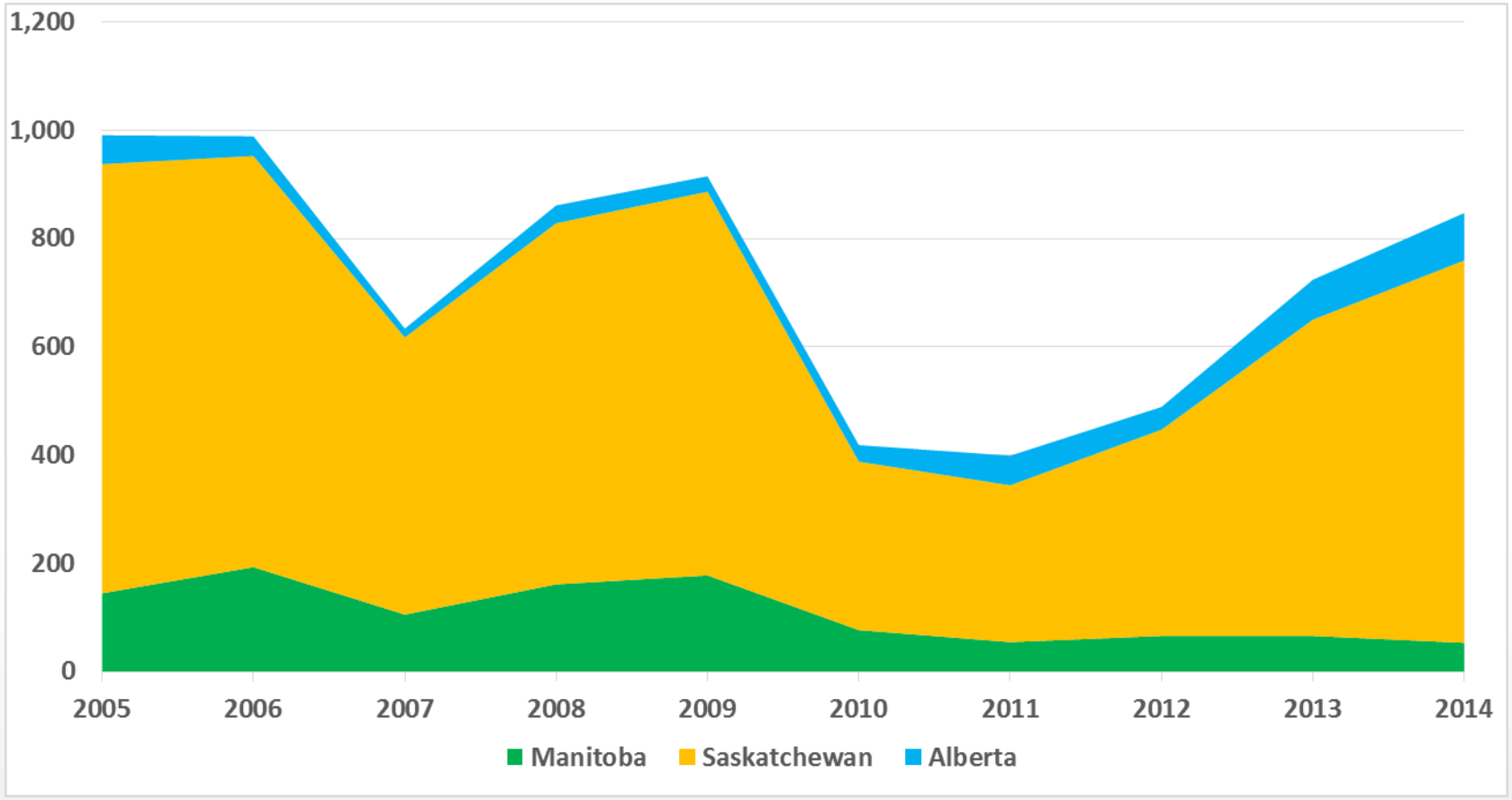
Development of Linseed Production

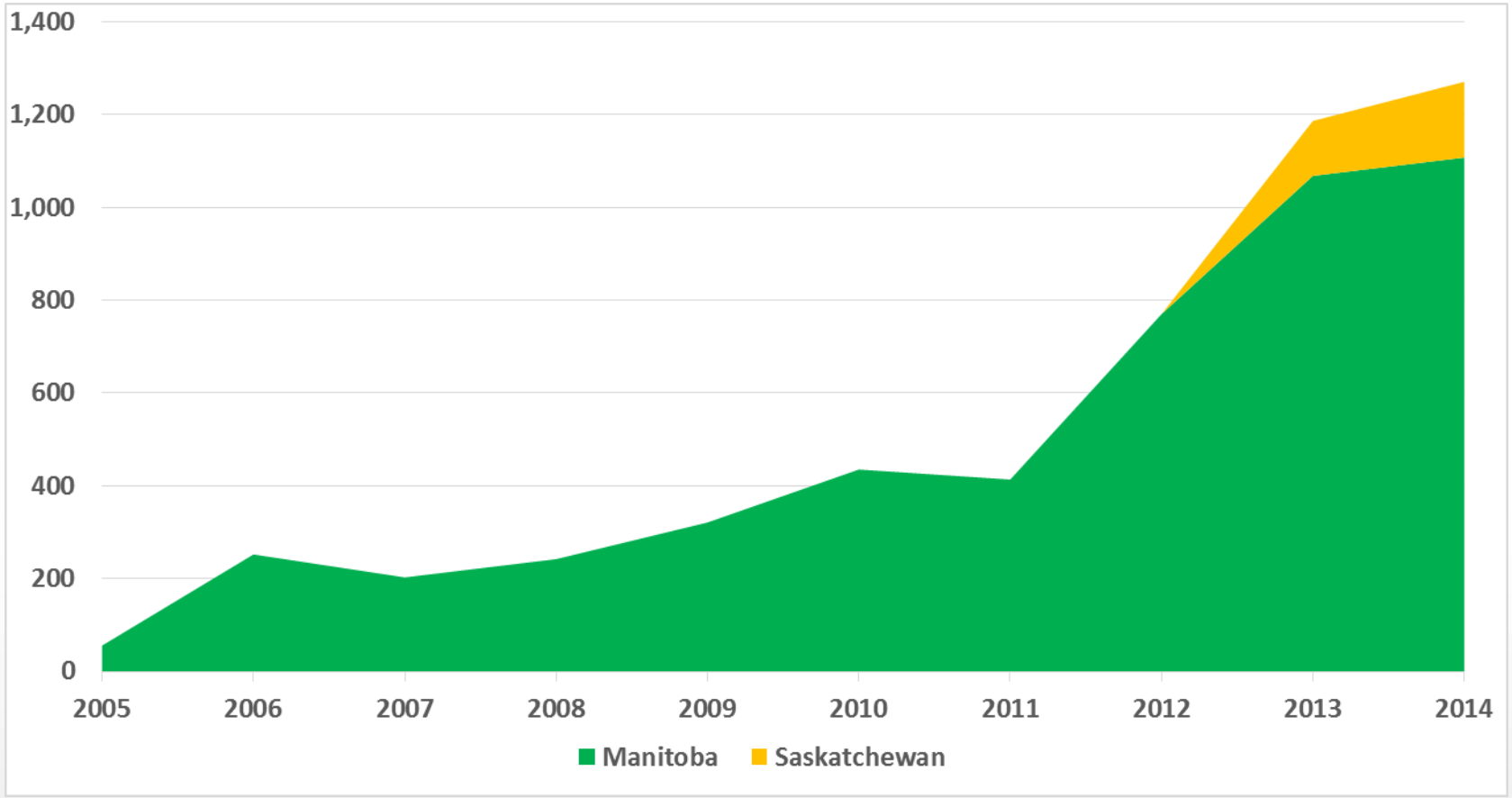
(thousand metric tonnes)



Source: StatCan

Development of Soybean Production

(thousand metric tonnes)

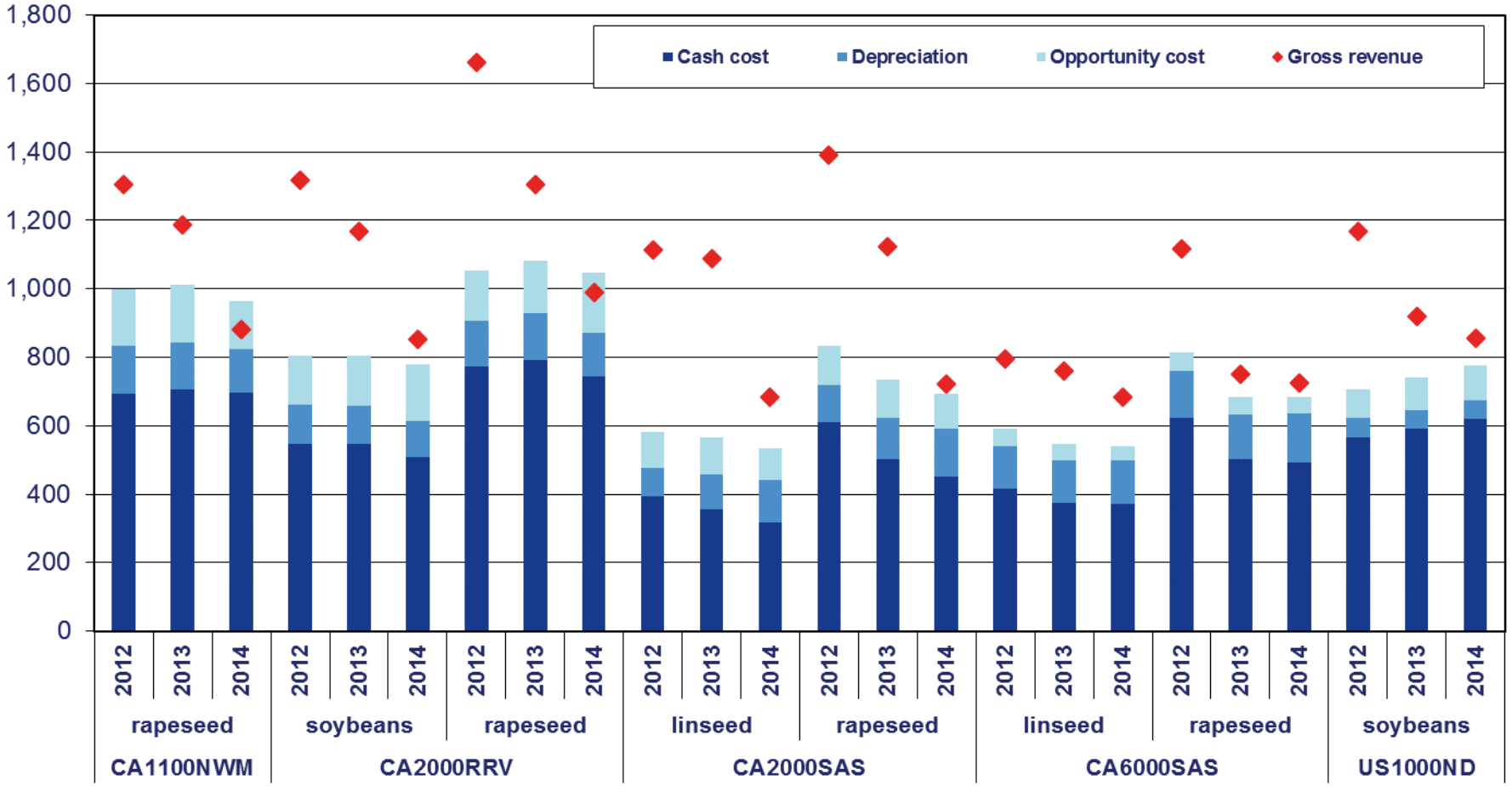


Source: StatCan

Overview of typical Farms

Farm Name	CA1100NWM	CA2000RRV	CA2000SAS	CA6000SAS	US1000ND
Country	Canada	Canada	Canada	Canada	USA
Acreage [ha]	1,100	2,000	2,400	6,000	1,000
Location	North West Manitoba	Red River Valley	Saskatoon	Brown Soil Zone	Barnes County, ND
Main Enterprise	Cash Crop	Cash Crop	Cash Crop	Cash Crop	Cash Crop
Tillage System	No-Till	Conservation Tillage	No-Till	No-Till	Conservation Tillage
Legal Status	Corporation (Ltd.)	Corporation (Ltd.)	Corporation (Ltd.)	Corporation (Ltd.)	Corporation (Ltd.)
Elevation [m]	554	350	500	500	456
Avg. Field Size [ha]	65	79	130	130	53
Avg. Distance Farm-to-Field [km]	8	16	20	20	6
Avg. Rain Fall [mm]	508	505	320	400	510
Climate	Continental	Continental	Continental	Continental	Continental
Landprice [$/ha]	4,200	7,400	2,600	2,300	7,100
Landrent [$/ha]	158	189	92	83	222
Crop Rotation	CAN-SW-PEAS	CAN-SOY/WW-SW	CAN-OATS/SW-PEAS	CAN-OATS/SW-PEAS	SOY-CORN-SOY-SW

Total Cost and Gross Revenue (USD/ha)



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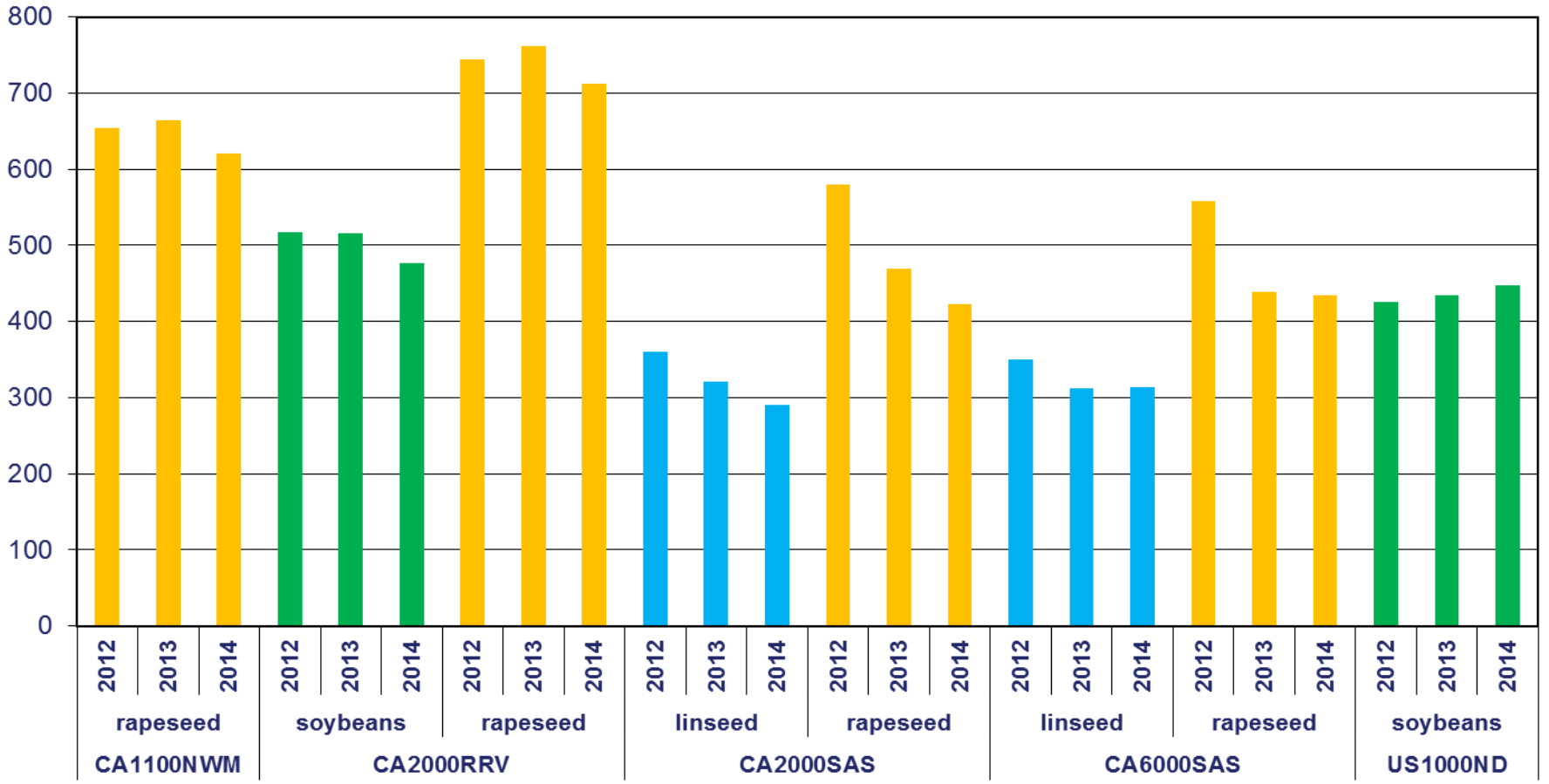
Annual Liquidity Needs for Inputs (USD/ha)



1. Within the regions rapeseed requires higher liquidity than competitive crops (soybeans/linseed)
2. Rapeseed is therefore a higher risk crop

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