Alberta Government

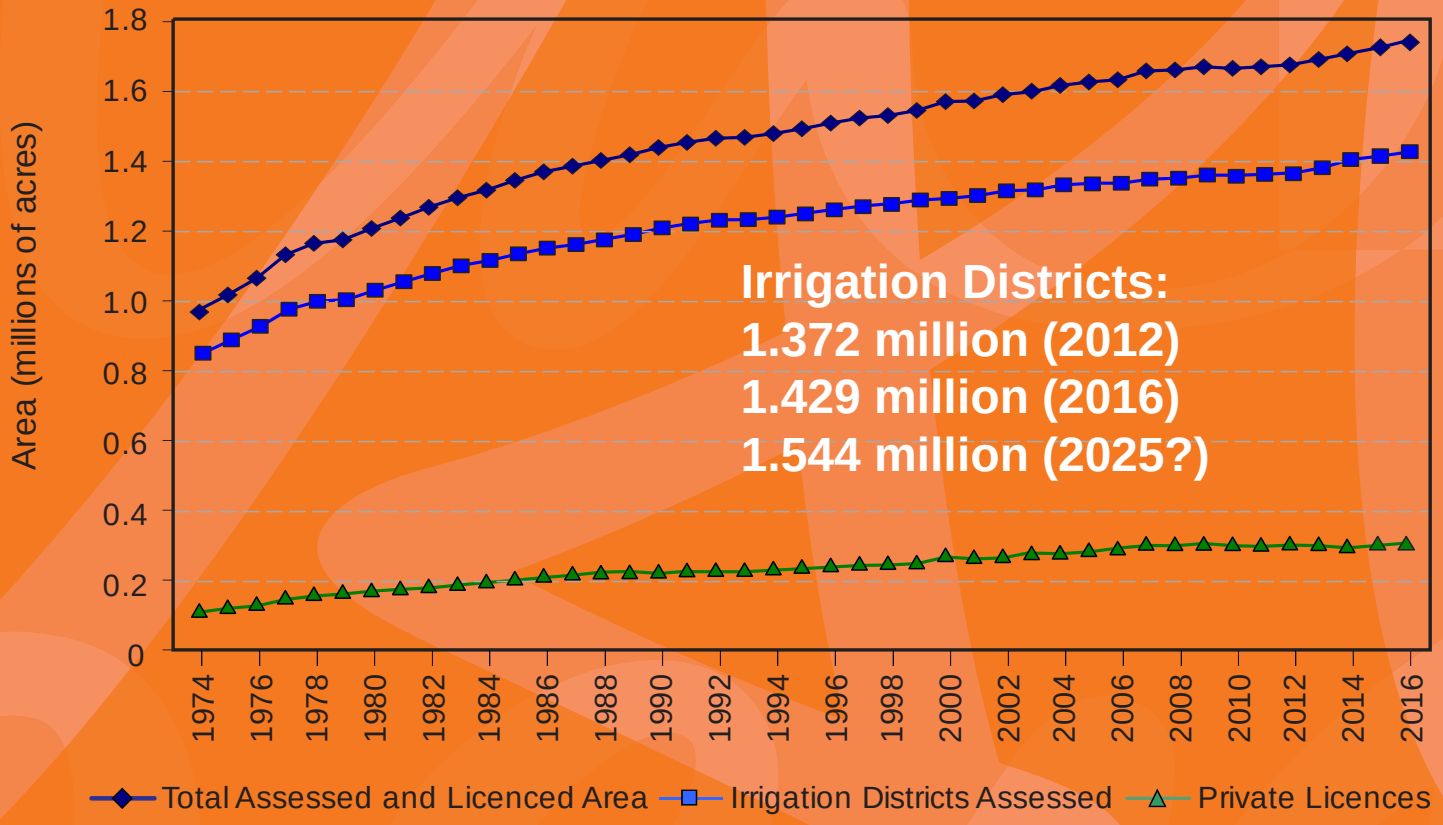
“Maximizing the Productivity and Profitability of Irrigated Agriculture”

Future Perspectives

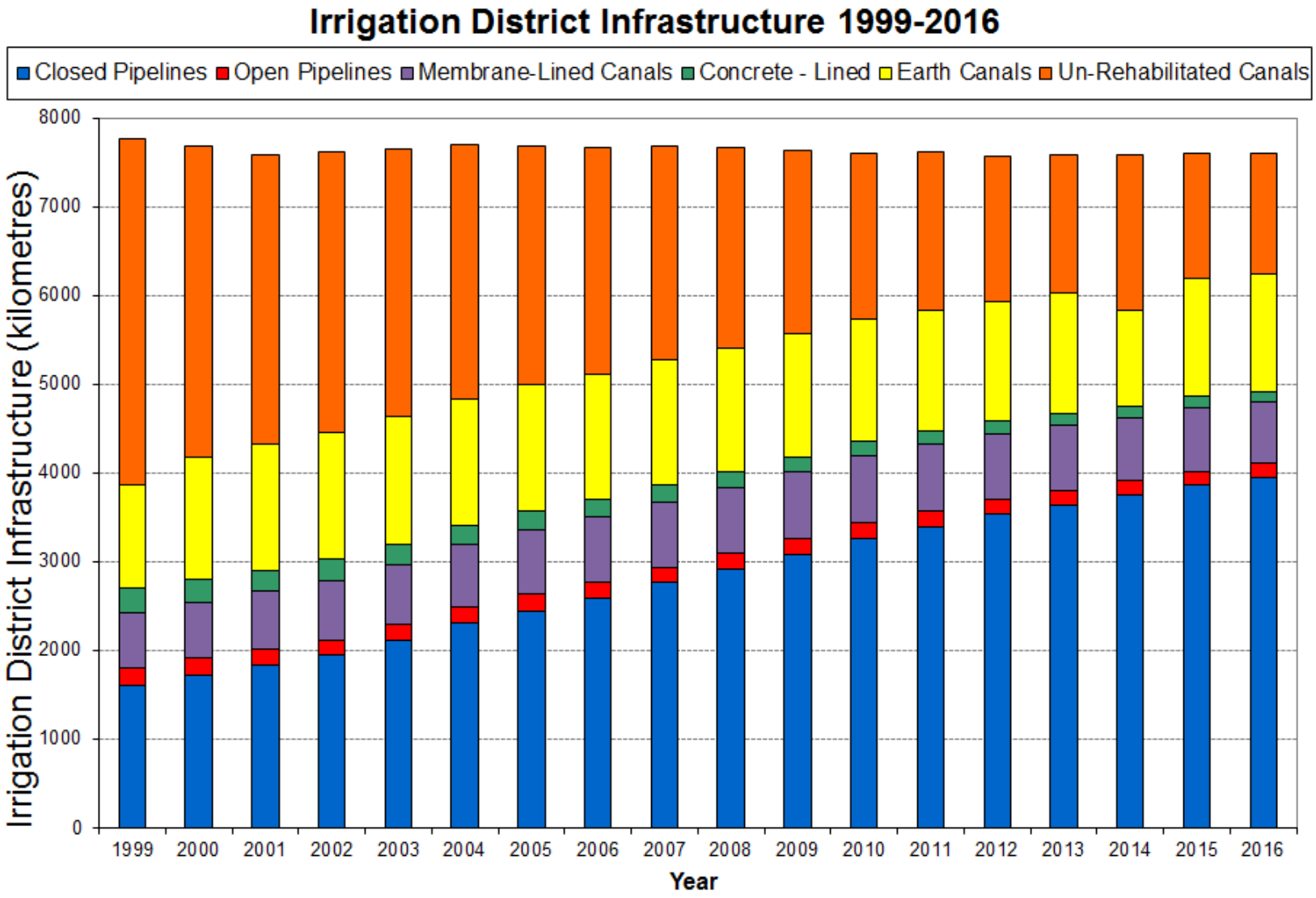
Rod Bennett, P.Ag.

January 17, 2018

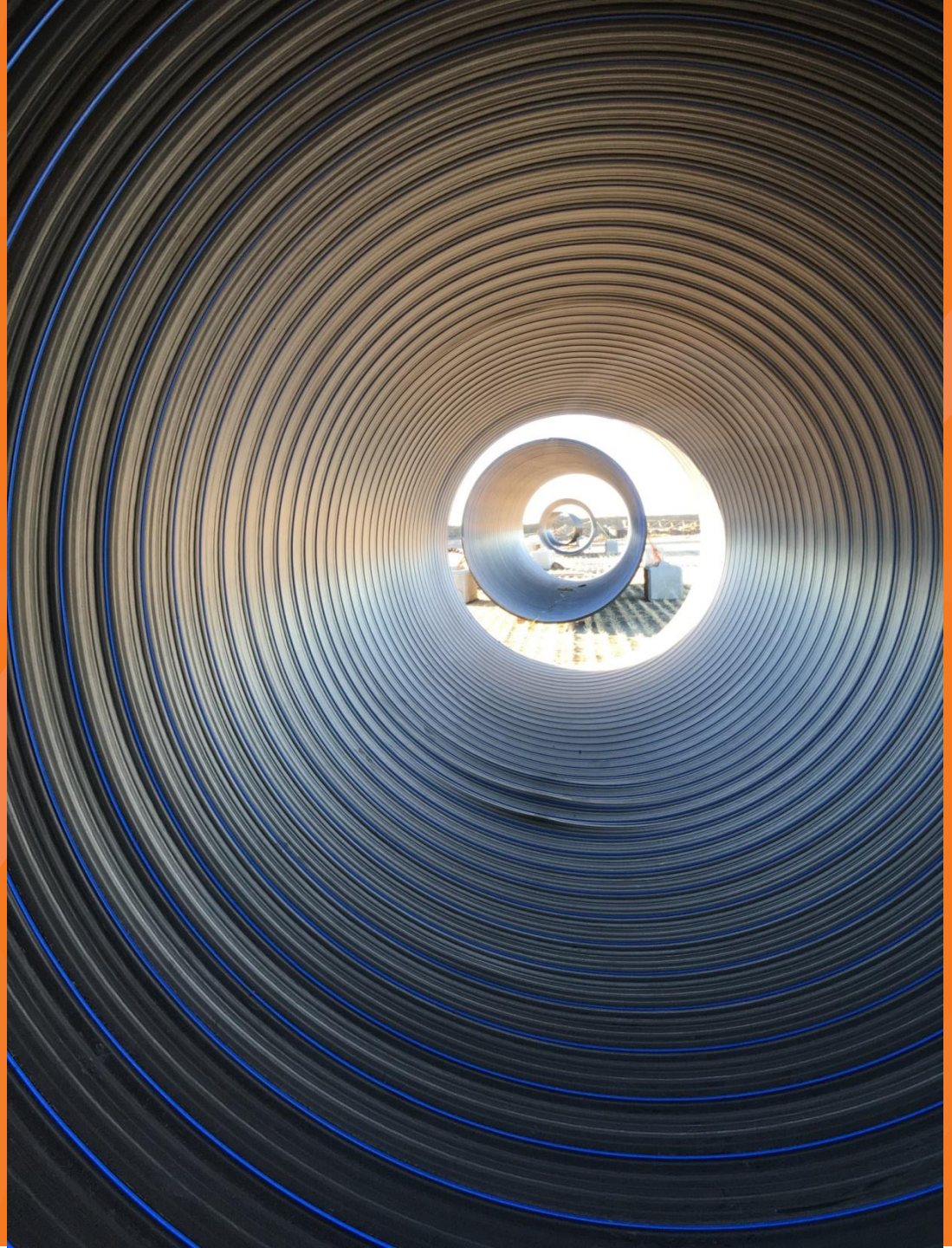
Growth in Irrigation Area



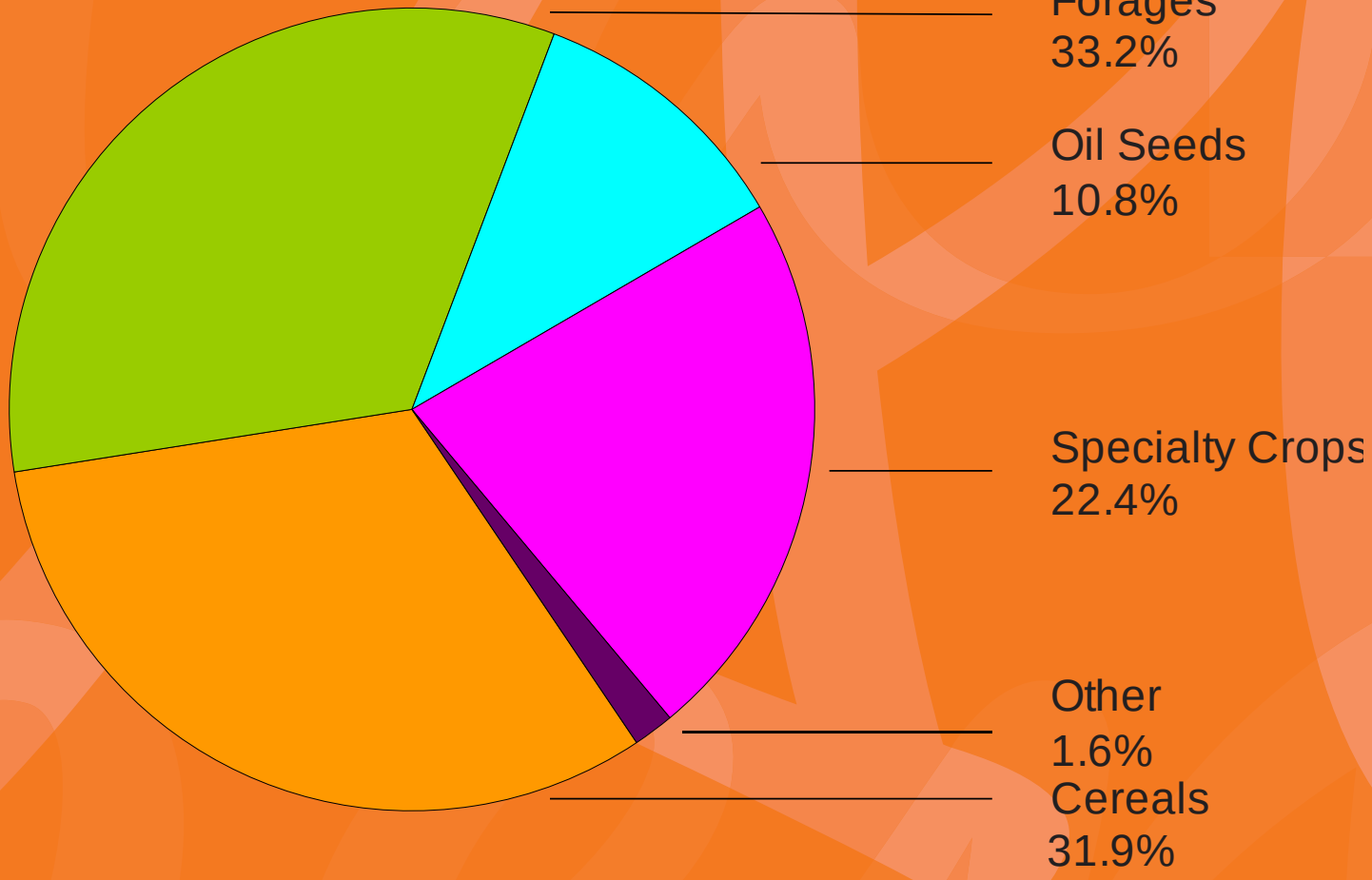
Alberta Government



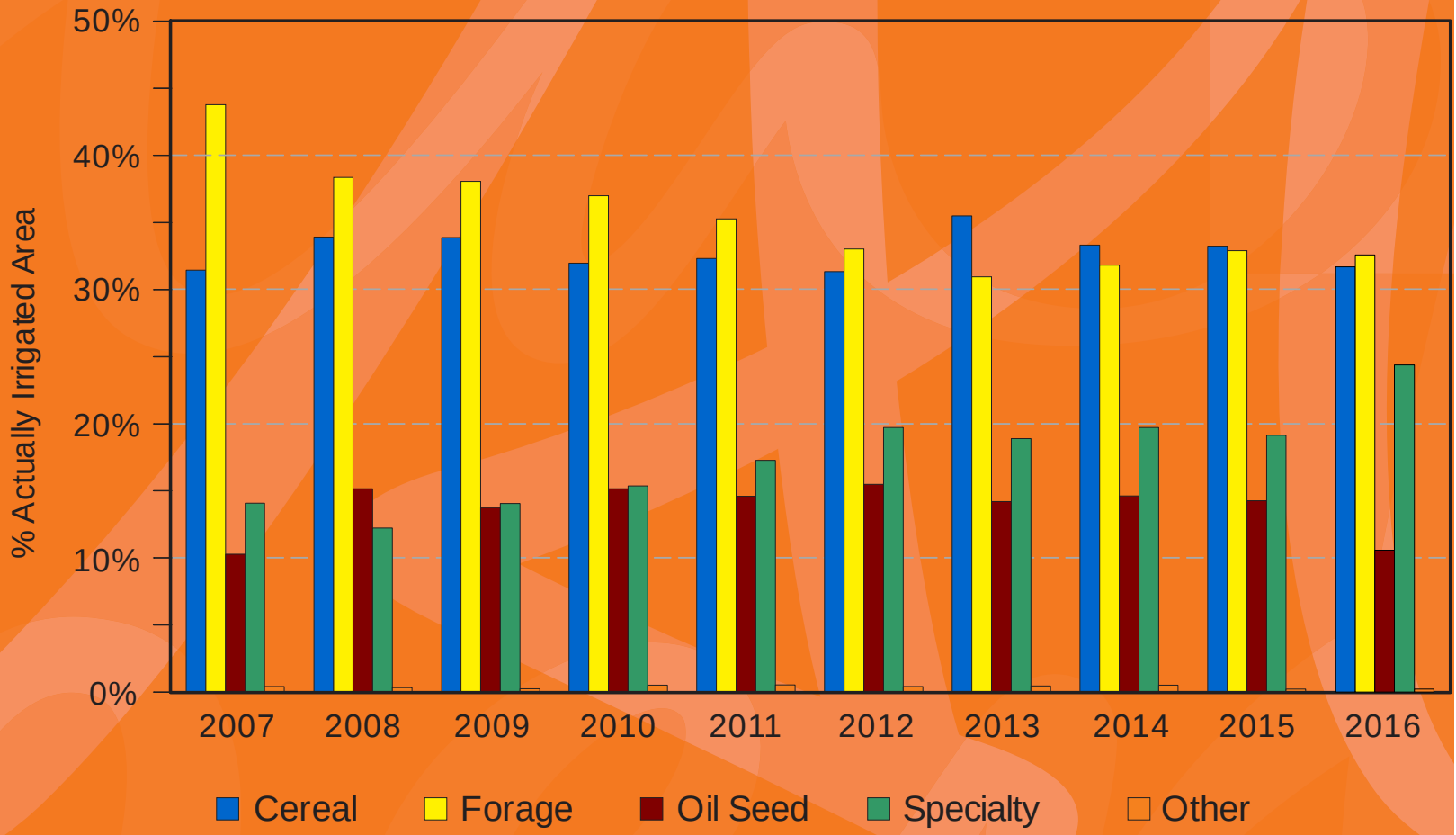
Alberta
Government



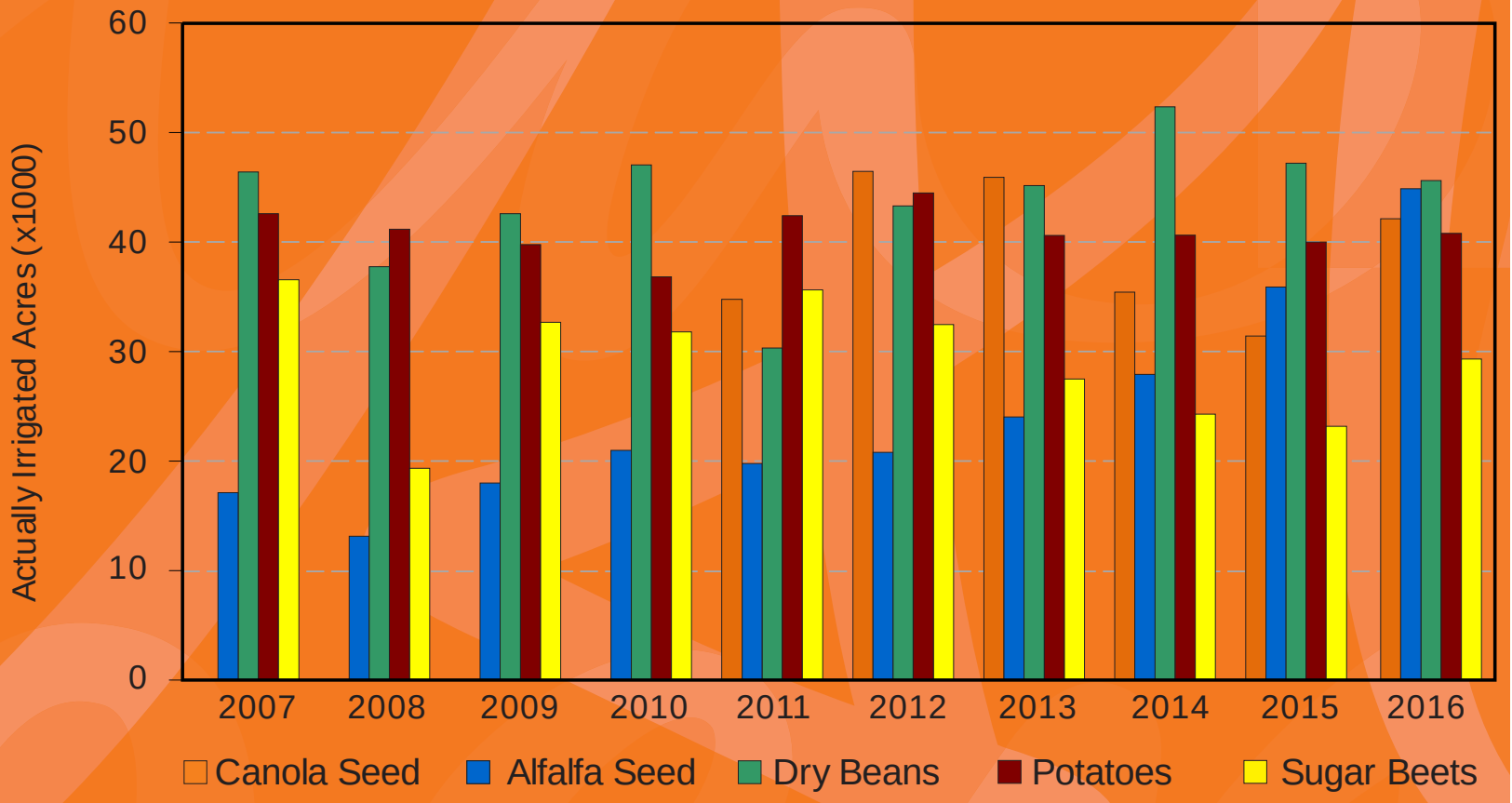
Crops Grown within the 13 Irrigation Districts in 2016



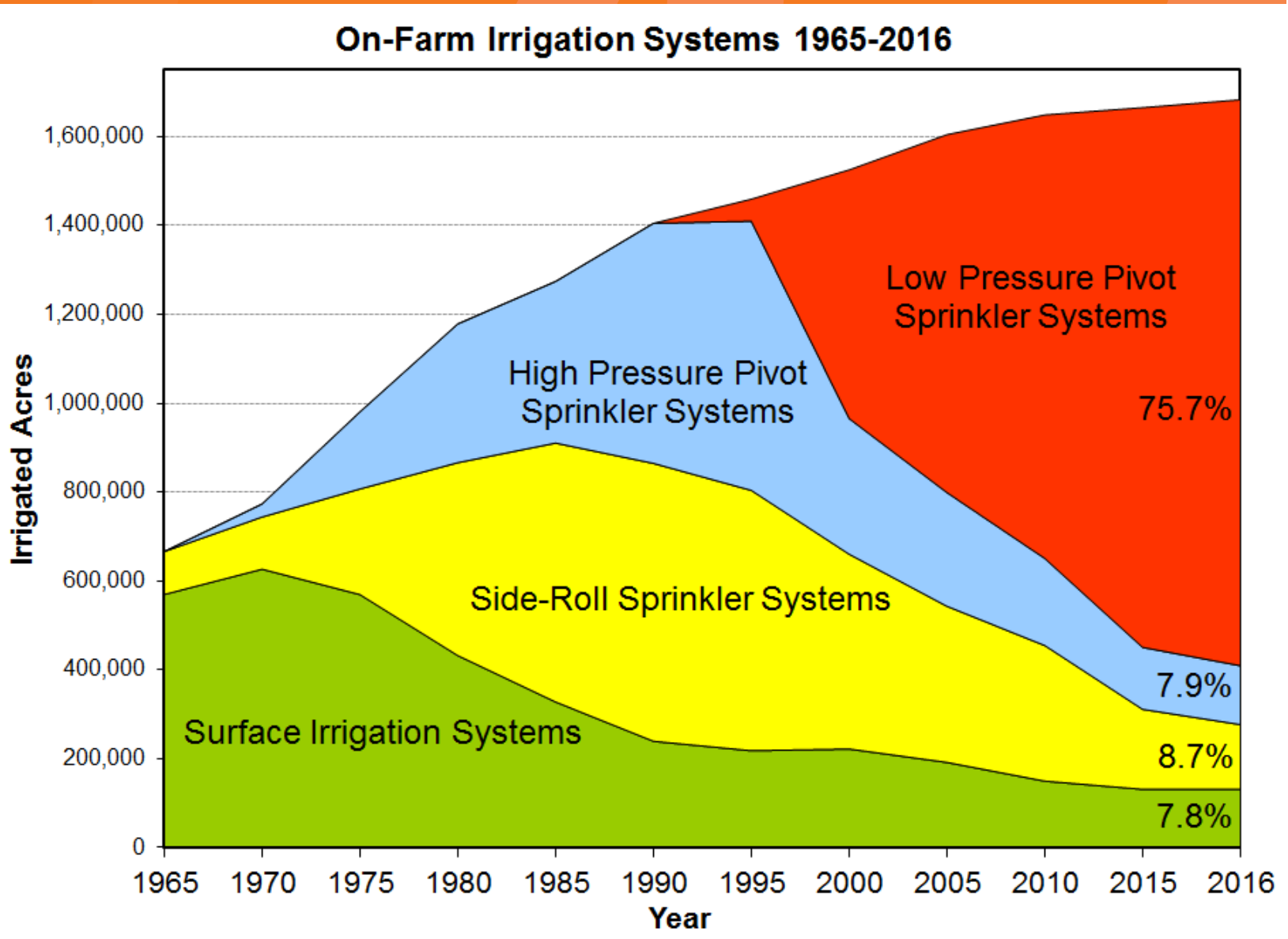
Irrigated Crops within the 13 Irrigation Districts



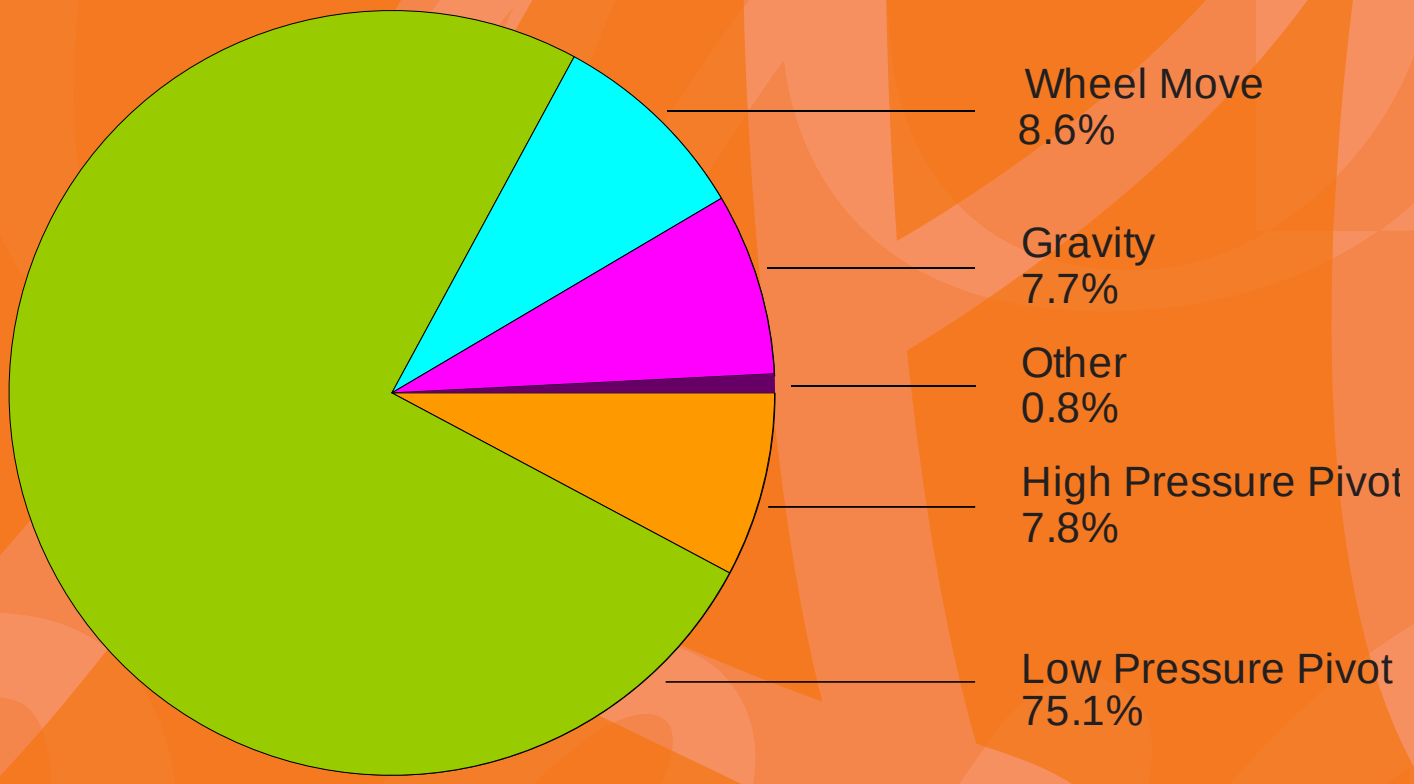
Area of Selected Irrigated Specialty Crops within the 13 Irrigation Districts



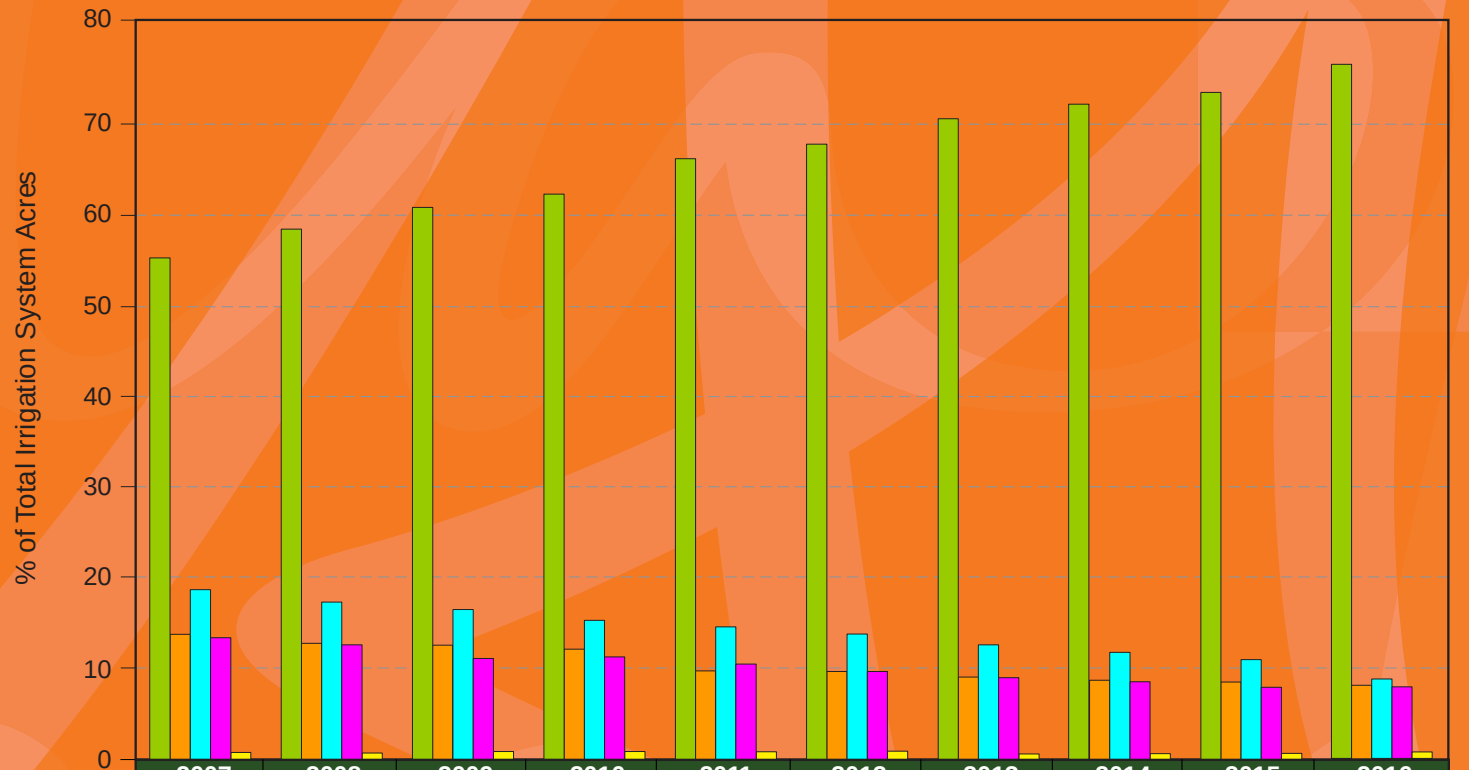
Alberta Government



On-Farm Irrigation Methods within the 13 Irrigation Districts in 2016



Irrigation Methods Used within the 13 Irrigation Districts



Acres	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Low Pressure Pivot	705,260	747,187	773,538	802,173	856,707	879,651	923,391	957,117	991,859	1,038,024
High Pressure Pivot	176,421	164,072	160,665	156,784	126,864	126,430	119,449	116,436	110,733	107,761
Wheelmove	239,140	222,247	210,606	198,043	189,410	179,837	165,561	157,056	145,124	118,962
Gravity	171,487	162,063	141,885	145,879	136,709	126,217	118,307	114,122	106,764	107,129
Other	10,380	9,870	11,935	11,826	11,626	12,444	8,785	8,941	9,698	9,731

System Application Efficiencies

Irrigation Method	Application Efficiency (%)
Gravity - Developed	62
Sprinkler – Wheel-move (2 laterals)	68
Sprinkler – Wheel-move (4 laterals)	70
Sprinkler – Pivot – High Pressure	73
Sprinkler – Pivot – Low Pressure	84
Sprinkler – Volume Gun – Stationary	65
Sprinkler – Volume Gun – Traveler	66
Micro – Drip - Trickle	88

Irrigation Efficiency Program

Outcome:

- Reduced greenhouse gas emissions and increased water savings in irrigated agriculture by assisting producers with the purchase of more efficient irrigation equipment and systems.

Irrigation Efficiency Program

Proposed Eligible Equipment Upgrades:

- New low pressure centre pivot to replace a gravity, side-wheel or high pressure centre pivot;
- Retrofit of a high pressure centre pivot to a low pressure centre pivot, including booster pumps, nozzle packages and pump modifications;
- High efficiency sprinkler nozzles and related equipment to upgrade an existing low pressure centre pivot;
- Variable-rate irrigation equipment (controllers and software);
- Control panel upgrades, including base stations for telemetry;
- Surface or subsurface drip irrigation systems.

Irrigation Efficiency Program

Eligible Applicants:

- Operate as a producer in Alberta;
- Own an irrigated agricultural operation in Alberta;
- Have a Long-Term Irrigation Management Plan;
- Have not been previously approved for payment from the Program on a given parcel.

Irrigation Efficiency Program

Proposed Grant Payments:

- 40% of the costs for eligible equipment upgrades on a given parcel up to a maximum of $5,000; or
- $15,000 for an upgrade on a given parcel from a gravity, side-wheel or high pressure centre pivot irrigation system to a new low pressure centre pivot or subsurface drip irrigation system (minimum 20 acres).

Irrigation Scheduling Considerations

How much water does the soil hold?

How much water does the crop use?

What is the effective rooting depth of the crop?

What is the rate of application of the irrigation equipment?

What is the net amount of water applied?

Alberta Government

Alberta Irrigation Management Manual

2016

Alberta Agriculture and Forestry

Alberta
Government