Water and water use efficiency

Canada has a rich supply of fresh water, but the distribution and availability of this resource varies greatly across the country. In the semi-arid Canadian Prairies, where agricultural activities are a primary consumer of water, there can be substantial pressure on water resources.

**Beef cattle production footprint**

Particular concerns have been raised concerning the intense use of water for livestock production associated with drinking, growing crops and forages for feeding, cleaning and processing of products. Scientists quantified the water footprint of beef cattle production and found that water use efficiency improved over the last 30 years. The improvement in water use is mostly attributable to increased production efficiency.

**Water use intensity of Canadian beef production in 1981 as compared to 2011** - Dr. Karen Beauchemin

**Quantifying water use in ruminant production** - Dr. Karen Beauchemin

Feed production accounts for the largest portion of water use in beef cattle production. Scientists modelled the current and future footprint of barley production and predicted a decrease in water footprint of barley production in the future.

**Modeling future water footprint of barley production in Alberta, Canada: Implications for water use and yields to 2064** - Dr. Tim McAllister

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**Drought monitoring at AAFC**

AAFC is responsible for the monitoring, assessment and reporting on drought conditions across Canada. Within AAFC, this work is done within the National Agroclimate Information Service (NAIS). Drought monitoring is a long-standing activity within AAFC and it is based on collaborative research on drought indicators. The Drought Watch website provides current and historic conditions as well as impacts of weather and climate...
on agricultural operations. Currently, assessments of the extent and intensity of drought across the country are done on a monthly basis throughout the year, and map products are posted online for all to view and use. A variety of information and tools can be found within the Canadian Drought Monitor (CDM) section of the website.

Patrick Cherneski, the manager responsible for national agroclimate activities, highlighted that in 2016 the Canadian Drought Monitor activity was significantly upgraded with the addition of an assessment archive as well as a number of interactive tools. In 2017, an interactive ‘Story Map’ tool was added which provides users with a new way of interacting with the most recent map products and information.

Over the 2017 growing season, Western Canada experienced significant drought conditions. A large majority of the southern portions of British Columbia, Alberta and Saskatchewan recorded less than half of normal precipitation and many locations experienced the driest or second driest summer on record. Extremely dry conditions combined with high temperatures and winds resulted in widespread agricultural impacts including wildfires, reduced crop yields, reduced livestock feed and low levels of surface water storage. As of the end of January 2018, the southern Prairie region remains abnormally dry with dry soils and below normal winter snowfall levels. The area of greatest concern is south-central Saskatchewan. These conditions could affect the next growing season.

Check out the current Drought Watch map and the entire Canadian Drought Monitor activity at [www.agr.gc.ca/drought](http://www.agr.gc.ca/drought).
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Dr. Robert Conner

Injectable antimicrobials in commercial feedlot cattle and their effect on the nasopharyngeal microbiota and antimicrobial resistance

Dr. Devin Holman

Soil nitrous oxide emissions from agricultural soils in Canada: Exploring relationships with soil, crop and climatic variables

Dr. Reynald Lemke

Effects of rate and application method on the efficacy of metam sodium to reduce clubroot (Plasmodiophora brassicae) of canola

Dr. Bruce Gossen

*Ce document est aussi disponible en français.

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Articles selected by Prairie Region Directors: François Eudes PhD (AB); Felicitas Katepa-Mupondwa PhD, LLB (SK); Esther Salvano PhD (MB)

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