



Western Canadian Animal Health Network

ANNUAL REPORT APRIL 2020– MARCH 2021

Executive summary

Background

The first Canadian regional animal health surveillance network, RAIZO (Québec) has been in operation since the 1970. Other networks in Ontario and Atlantic Canada have more recently come online. However, prior to 2020, there was no similar initiative in western Canada. The concept of a Western Canadian Animal Health Network (WeCAHN) was presented at the Canadian Animal Health Laboratories Network (CAHLN) 2018 by Dr. Wayne Lees. Subsequently, the four western provinces, led by Saskatchewan, secured funding for year one of operation of WeCAHN, which began 1 April 2020.

Methods

Prairie Diagnostic Services (PDS), WeCAHN “champion”, is the virtual home of WeCAHN, holding the funds, and providing administrative support. The coordinator works under the guidance of the WeCAHN steering committee, with representatives from the four western provinces and PDS. At an initial meeting of stakeholders, a structure consisting of species/sector specific networks, similar to OAHN and RAIZO, was suggested. Beef cow-calf, dairy, poultry, and laboratory networks were prioritised by this group for implementation in year one.

The coordinator conducted internet searches to identify potential stakeholders in the four western provinces, including industry and veterinary groups, provincial and federal government staff, veterinary diagnostic laboratories, and existing surveillance projects/programs. These stakeholders were then contacted to discuss their potential interest in participating in the networks. Concurrently, existing regional networks were contacted to learn more about their respective operations and standard operating procedures.

Results

In year one, WeCAHN has established beef cow-calf, dairy, and poultry networks (which have held three, one and one quarterly meetings respectively). These meetings include veterinary practitioners from each of the four western provinces, laboratory diagnosticians from the western veterinary diagnostic laboratories, veterinary college faculty, researchers, provincial veterinary epidemiologists, and representatives from other veterinary surveillance networks. All participants contribute data, including a practitioners’ clinical impressions survey, and laboratory data extracted from the LIMS of the participating laboratories. Network findings are shared with veterinary practitioners, veterinary associations, industry, and the general public.

Plans for year two include expanded activities of the beef network, supported by a Beef Cattle Research Council Grant, as well as the initiation of a small ruminant network.

Milestones Year One

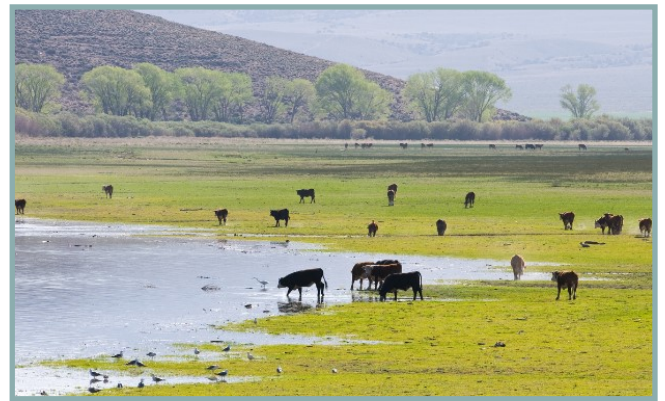
Prior to launching the networks, preliminary discussions were held separately with stakeholders including the Western Canadian Association of Bovine Practitioners (WCABP), for the beef cow-calf and dairy networks, and Western Association of Poultry Veterinarians (WAPV), for the poultry network; veterinary epidemiologists from the four western provincial ministries of Agriculture, western veterinary diagnostic laboratories, the two western veterinary colleges, and industry groups such as provincial cattlemen's associations. All indicated interest in working with WeCAHN.

Beef network

Meeting 1 (September 2020): Participants for the first network meeting included: cow-calf practitioners from each of the four provinces, nominated by the WCABP; one feedlot practitioner to act as a conduit to feedlot practitioners; veterinary epidemiologists from each western province; laboratory diagnosticians from Prairie Diagnostic Services and the University of Calgary Veterinary College (UCVM) Veterinary Diagnostic Unit, faculty from the Western College of Veterinary Medicine (WCVM) and UCVM, and representatives from other surveillance networks (Canadian Integrated Program for Antimicrobial Resistance Surveillance (CIPARS), and Canadian Cow-Calf Surveillance Network (C3SN)). Thanks to Dr. Windeyer at UCVM for helping to draft the beef clinical impressions survey.

The dataset included results of the practitioners' clinical impressions survey, laboratory data from PDS and UCVM, and Canadian Food Inspection Agency (CFIA) abattoir condemnation data. Discussions included laboratory diagnosis and cutpoints for diagnosis of some trace mineral deficiencies such as vitamin A, and tips to improve the diagnostic success on abortion/perinatal calf death submissions.

Meeting 2 (December 2020): Participants discussed challenges with tick control in cattle, as an offshoot of a description of the Anaplasmosis outbreak in Manitoba. Dr. Huang described the ongoing study of influenza D virus in bovine respiratory disease underway at PDS.



Meeting 3 (February 2021): Discussions included clinical impressions of increasing frequency of diagnosis of BLV and Johne's disease in beef cattle in Manitoba. The initiative led by Dr. van Donkersgoed, seeking Beef Cattle Research Council (BCRC) funding to promote enhanced uptake of vaccines in beef production, was discussed (WeCAHN is also part of the group which drafted the Letter Of Intent, which was favourably received; a full proposal has been submitted for review).

Another proposal seeking funding support from BCRC for the WeCAHN beef network was successful in obtaining BCRC support. These funds will be used to study beef veterinarians' reasons for diagnostic laboratory usage, and barriers to use; design and implement a comprehensive alert system for western beef producers and veterinarians; and continue with quarterly beef network meetings and knowledge translation and transfer (KTT). A list of beef KTT published in Year One is presented in Appendix One, and all documents are available on the WeCAHN website.

Smallholder supports



WeCAHN, following the model provided by OAHN and RAIZO, has contracted with western poultry and swine specialist practitioners, to answer the questions of non-specialist veterinary practitioners in two dedicated listservs, kindly hosted by PDS. Questions from practitioners so far have been regarding basic SOPs such as vaccination protocols in smallholder swine. Four paggers describing various aspects of African Swine Fever (ASF) diagnosis were created, shared with the listserv practitioners, and published on the website. Three podcasts created by Dr Kate Todd on herd health for smallholder swine producers, introduction to ASF for producers, and ASF for non-swine specialist veterinarians, are also available from the website.

Pagers for non-poultry specialist veterinarians, reviewing of Infectious Laryngo-tracheitis (ILT) status and provincial regulations regarding control, across the western provinces, and clinical signs/diagnosis, are in-progress

Poultry network

Meeting 1 (26th February, 2021): Participants for the first network meeting: poultry practitioners from each of the four provinces, nominated by the WAPV; veterinary epidemiologists from each western province; laboratory diagnosticians from Prairie Diagnostic Services, Manitoba Veterinary Services Laboratory and UCVN Veterinary Diagnostic Unit; faculty from WCVN and UCVN, and a representative from CIPARS. Thanks to Dr. Moore with OMAFRA for sharing the OAHN poultry practitioners' survey, which was used as a template for the WeCAHN poultry practitioners' survey.

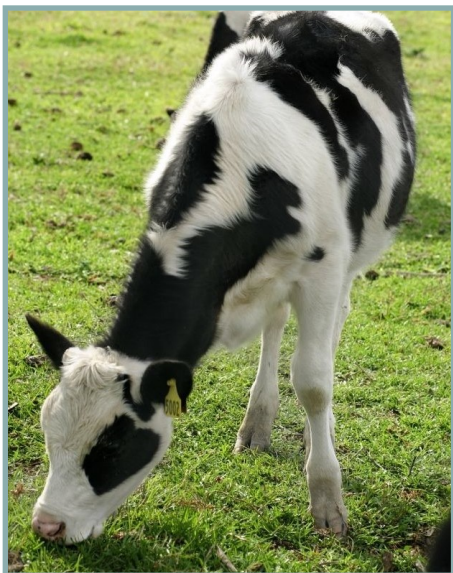
Topics discussed included potential data sources and their refinements (e.g. adding metadata such as purpose of sampling to datasets), and apparent regional variations in frequency of diagnosis of some common pathogens and serotypes. Dr. Agunos gave an overview of CIPARS poultry sampling, sharing some recent broiler findings from the 2019 collections: the most recent report on broiler flocks (which collected samples in 2019) identified regional variations in the species of *Salmonella* cultured from the participating flocks, with *S. Kentucky* being predominate nationally; while the percentage of *Salmonella* positive flocks trended up relative to the preceding year (2018) in B.C., the trend was downward for the prairie provinces; CIPARS' 2019 broiler flock study also identified that much of the participating broiler population could be categorized as raised within 'low' to 'medium' Antimicrobial Usage (AMU).



Dairy network

Participants for the first network meeting included: dairy practitioners from each of the four provinces, nominated by the WCABP; veterinary epidemiologists from each western province; laboratory diagnosticians from Prairie Diagnostic Services, Manitoba Veterinary Services Laboratory and UCVM Veterinary Diagnostic Unit; faculty from WCVM and UCVM, and a representative from Alberta Milk. Thanks to Dr. Luby at WCVM for help in drafting the dairy clinical impressions survey.

Major topic discussed at the first meeting was the perceived increase in BC, southern Alberta, and Saskatchewan, in frequency of diagnosis of *Salmonella*, both Typhimurium and Dublin, often associated with recent introductions into an 'open' herd. Dr. Orsel gave an overview of recent dairy surveillance initiatives at UCVM: CHESS, the Cattle Health Surveillance System (CHESS) of major infectious diseases and antimicrobial resistance in Alberta, testing for *Staphylococcus aureus*, *Streptococcus agalactiae*, *Mycoplasma bovis*, Leukosis, Leptospirosis, Neosporosis, Johne's disease, and *Salmonella* Dublin; a Johne's disease eradication program, a project to eliminate high load BVL shedders from dairy herds, and evaluation of the lameness risk assessment tool.



Website

The WeCAHN website was launched in January 2021 (www.wecahn.ca). Thanks to the Canadian Animal Health Surveillance System (CAHSS) for their support in its development and ongoing operation, as the WeCAHN website is a microsite of the CAHSS website. It consists of a series of databases storing documents, a listing of western animal health surveillance initiatives, and disease updates with the capacity to generate push notifications via email to individual members when a new update is published, as well as pages dedicated to each of the individual networks, with both a 'public' and 'members-only' area.

Thanks also to Mike Dell, IT specialist with PDS, for his outstanding support (and patience) in getting the website and listservs launched.

The WeCAHN social media strategy, which launched in March, and currently includes Twitter and LinkedIn, is to essentially funnel the public, and especially veterinary practitioners, to the website, for engagement and ongoing contact.

Knowledge translation and transfer

Pager infosheets/infographics based on completed surveillance work reported by C3SN, as well as individual researchers, selected topics identified at network meetings (e.g. diagnosis of beef abortions and peri-natal loss), and ASF preparedness for non-specialist veterinary practitioners were shared with veterinarians and livestock producers via their respective associations, as well as publishing on the WeCAHN website. A listing of KTT published in year one is presented in Appendix 1.



Looking ahead

Funding Year 2

Commitments for funding support for WeCAHN year two have been received from Alberta, British Columbia, Saskatchewan, and the Beef Cattle Research Council, with a request for support from Manitoba under review as of 8th April 2021. Until funding for 2021 is finalized and in place, bridging support on a month-by-month basis is generously being supplied by Prairie Diagnostic Services.

Plans for Year 2

Plans for year 2 include continuation and strengthening the 3 existing networks (beef, dairy, poultry), plus the initiation of a fourth (small ruminant). There will be increased emphasis on recruitment and retention of membership from currently underrepresented regions and sectors .

Thanks to the support from BCRC, the beef network will be involved in some enhancements to the quarterly network meetings. The clinical impressions survey will be revised to capture additional data regarding practitioners' current and potential use of diagnostic laboratories. This information will be used to guide discussions with the provincial veterinary diagnostic laboratories in how to eliminate barriers to practitioners' laboratory usage, and improve the utility of lab reports. Work will begin on designing a beef sector rapid alert system for western Canada, identifying stakeholders and discussing potential communications pipelines.

WeCAHN is part of a group led by Dr Joyce van Donkersgoed which has been invited to submit a full proposal to BCRC in call for projects to improve uptake of vaccines in the beef sector. If successful, WeCAHN will help with design, delivery, and analysis of a survey of western beef practitioners regarding current vaccine recommendations, and perceived barriers to uptake.



Acknowledgements

WeCAHN is, by definition, a collaboration of many different people, groups and organizations. That said, we would like to specifically extend our thanks to:

The network practitioners, who take time for their extremely busy schedules and businesses to complete the clinical impressions survey, participate in the network meetings, review datasets and documents, and enthusiastically support and promote western Canadian animal health and welfare.

The other network participants who similarly share time, data, and talents.

The four western veterinary associations who have generously shared WeCAHN news and materials from their own platforms, as the WeCAHN website gradually came onstream.

Livestock producer groups in the four western provinces who similarly shared WeCAHN news and materials, and offered suggestions regarding potential activities and KTT. In particular, the panel of western beef producers who have been reviewing beef network reports and KTT are deeply appreciated.

Lakeland College animal science faculty and students, who have also reviewed beef network reports and KTT.

Collaborating animal health surveillance networks, especially CAHSS, C3SN, and CIPARS, who have contributed substantial expertise and support.

The WeCAHN steering and scientific advisory committees, who have offered guidance and expertise in forming a governance model, and establishing the initial scope of activities for WeCAHN.

Prairie Diagnostic Services, very ably led by Dr. Huang, for their steadfast support and encouragement.

Appendix 1: WeCAHN Knowledge Translation and Transfer

List of WeCAHN KTT published 1 April 2020-31 March 2021

Title	Place Published			
	<u>WeCAHN Website</u>	Provincial Veterinary Medical Associations	Producer websites	Other
Beef Network Meeting September 2020 Producer Summary Long Report	x	x	x	BCRC, CFIA
Beef Network Meeting September 2020 Producer Summary Pager	x	x	x	BCRC, CFIA
Beef Network Meeting September 2020 Veterinary Summary Long Report	x	x		BCRC, CFIA
Beef Network Meeting September 2020 Veterinary Summary Pager	x	x		BCRC, CFIA
Beef Network Meeting December 2020 Producer Summary Long Report	x	x	x	BCRC, CFIA
Beef Network Meeting December 2020 Producer Summary Pager	x	x	x	BCRC, CFIA
Beef Network Meeting December 2020 Veterinary Summary Pager	x	x		BCRC, CFIA
Beef Network Meeting December 2020 Veterinary Summary Long Report	x	x		BCRC, CFIA
Beef Network Meeting February 2021 Producer Summary Long Report	x	x	x	BCRC, CFIA
Beef Network Meeting February 2021 Producer Summary Pager	x	x	x	BCRC, CFIA
Beef Network Meeting February 2021 Veterinary Summary Long Report	x	x		BCRC, CFIA
Beef Network Meeting February 2021 Veterinary Summary Pager	x	x		BCRC, CFIA

Notes:

BCRC = Beef Cattle Research Institute; CFIA = Canadian Food Inspection Agency; PIP = Poultry Innovation Partnership; WAPV = Western Association of Poultry Veterinarians.

KTT from WeCAHN April 2020-March 2021

Title	Place Published			
	WeCAHN Website	Provincial Veterinary Medical Associations	Producer websites	Other
Poultry Network Meeting February 2021 Producer Summary Long Report	x	x	x	PIP, WAPV
Poultry Network Meeting February 2021 Producer Summary Pager	x	x	x	PIP, WAPV
Poultry Network Meeting February 2021 Veterinary Summary Long Report	x	x		
Poultry Network Meeting February 2021 Veterinary Summary Pager	x	x		
Dairy Network Meeting March 2021 Producer Summary Long Report	x	x	x	
Dairy Network Meeting March 2021 Producer Summary Pager	x	x	x	
Dairy Network Meeting March 2021 Veterinary Summary Long Report	x	x		
Dairy Network Meeting March 2021 Veterinary Summary Pager	x	x		
Use of Antimicrobials and Vaccines <u>For</u> Bovine Respiratory Disease In Western Canadian Beef Herds	x		x	BCRC
Antimicrobial and Vaccine Usage <u>In</u> Western Canadian Beef Cows	x		x	BCRC
Antimicrobial Usage and Vaccine Usage <u>In</u> Western Canadian Beef Calves	x		x	BCRC
Antimicrobial Resistance <u>In</u> Western Canadian Beef Cows	x		x	
Performance Benchmarks and Determinants for Reproductive Performance and Calf Survival	x		x	

Notes:

BCRC = Beef Cattle Research Institute; CFIA = Canadian Food Inspection Agency; PIP = Poultry Innovation Partnership; WAPV = Western Association of Poultry Veterinarians

KTT from WeCAHN April 2020-March 2021

Title	Place Published			
	WeCAHN Website	Provincial Veterinary Medical Associations	Producer websites	Other
Gastrointestinal Nematode Management Strategies <u>In</u> Western Canadian Beef Herds	x		x	
Antimicrobial Sensitivity of Mycoplasma <u>Bovis</u> Isolates <u>From</u> Western Canadian Feedlot Cattle	x		x	
Abortions <u>In</u> Western Canadian Beef Herds, Spring 2020	X		x	
Peri-Natal and Pre-Weaning Calf Losses <u>In</u> Western Canadian Beef Calves	x		x	
<u>CanSpot</u> ASF 'peace-of-mind' testing	x			<u>WeCAHN</u> Listserv
African Swine Fever and Feed	x			<u>WeCAHN</u> Listserv
African Swine Fever clinical signs for veterinarians	x			<u>WeCAHN</u> Listserv
African Swine Fever clinical signs for producers	x			<u>WeCAHN</u> Listserv
African Swine Fever and smallholder producers	x			<u>WeCAHN</u> Listserv
<u>WeCAHN</u> calf diarrhea update: Spring 2021_ for veterinarians	X			
<u>WeCAHN</u> calf diarrhea update: Spring 2021_ for producers	X			
Frequency of <i>Escherichia coli</i> <u>virotypes</u> in calf diarrhea	X			
Benchmarking calving management practices in western Canada cow-calf herds	X			
Respiratory viruses in western Canadian beef cattle	X			

Notes:

BCRC = Beef Cattle Research Institute; CFIA = Canadian Food Inspection Agency; PIP = Poultry Innovation Partnership; WAPV = Western Association of Poultry Veterinarians.

2. WeCAHN coordinator presentations

Group	Date	Topic
Alberta Beef Producers	9 Sept. 2020	<u>WeCAHN</u> Beef Network Overview
Beef Cattle Research Council	2 Nov. 2020	<u>WeCAHN</u> Beef Network Overview
BC Cattlemen's Association	15 Sept. 2020	<u>WeCAHN</u> Beef Network Overview
CAHSS Beef Network	3 Nov. 2020	<u>WeCAHN</u> Beef Network Overview
Canadian Animal Health Laboratory Network	23 Sept. 2020	<u>WeCAHN</u> overview
Canadian Food Inspection Agency	22 Sept. 2020	<u>WeCAHN</u> overview
Egg Farmers of Alberta	29 March 2021	<u>WeCAHN</u> Poultry Network
Epi-connect, WCVM	16 Sept. 2020	<u>WeCAHN</u> overview
Lakeland College Animal Science Faculty	22 Dec. 2020	<u>WeCAHN</u> Beef Network Overview
Manitoba Beef Producers	21 Sept. 2020	<u>WeCAHN</u> Beef Network Overview
Saskatchewan Cattlemen's Association	2 Sept. 2020	<u>WeCAHN</u> Beef Network Overview
Saskatchewan Livestock Extension workers	29 Sept. 2020	<u>WeCAHN</u> Beef Network Overview
UCVM: Clinical Sciences	22 Dec. 2020	<u>WeCAHN</u> Dairy Network
Western Association of Poultry Veterinarians	6 Oct. 2021	<u>WeCAHN</u> overview
Western Canadian Association of Bovine Practitioners	15 Jan. 2021	<u>WeCAHN</u> Beef Network Overview

3. WeCAHN text updates and reports

Group	Date	Topic
Western Canadian Association of Bovine Practitioners	November 2020	Update from <u>WeCAHN</u> beef Network for newsletter
Western Canadian Association of Bovine Practitioners	February 2020	Update from <u>WeCAHN</u> beef Network for newsletter
Society of British Columbia Veterinarians	October 2020	Overview of <u>WeCAHN</u>