The Association of Alberta
Agricultural Fieldmen

IN-SERVICE TRAINING

DECEMBER 4 - 7, 2023

HOSTED BY THE SOUTH REGION
DEERFOOT INN & CASINO, CALGARY

The Association of Alberta Agricultural Fieldmen

IN-SERVICE TRAINING

DEERFOOT INN & CASINO
MONDAY DECEMBER 4TH, 2023

9:00 AM - 3:00 PM	**NEW FIELDMEN ORIENTATION** PRESENTED BY: FIELDMAN ORIENTATION COMMITTEE
9:00 AM - 3:00 PM	**SEED PLANT TRAINING:** IN PERSON TOURS OF THE HUSSAR AND STRATHMORE PLANTS WITH A WALK THROUGH OF THE NEW INSPECTION FORMS (LUNCH AND TRANSPORTATION PROVIDED FROM HOTEL) PRESENTED BY: GEORGE BLOOM & ALBERT ANDERSON (WHEATLAND COUNTY)
1:00 PM - 3:00 PM	**AN OVERVIEW OF THE UNITED STATES DEPARTMENT OF AGRICULTURE'S NATIONAL FERAL SWINE PROGRAM:** AN INTRODUCTION TO USDA'S WILDLIFE SERVICES NATIONAL FERAL SWINE PROGRAM, INCLUDING THE ORIGINS OF THE PROGRAM, HISTORY OF FERAL SWINE IN THE AMERICAS, NATIONAL PROGRAM DESIGN, OPERATIONAL STRATEGIES, DISEASE SURVEILLANCE, RESEARCH PRIORITIES, AND OUTREACH AND EDUCATIONAL EFFORTS. PRESENTED BY: MICHAEL MARLOW & ANNA MANGAN (USDA APHIS WS NATIONAL FERAL SWINE PROGRAM)
3:00 PM - 4:30 PM	**FORM 7 TRAINING** PRESENTED BY: KAREN WICKERSON (GOVERNMENT OF ALBERTA) *CREDIT: PEST MANAGEMENT*

LUNCH AND REFRESHMENTS WILL BE PROVIDED ON MONDAY FOR ALL COURSES, INCLUDING THE BOAR WORKSHOP, FROM 12 - 1 PM. A BAGGED LUNCH IS PROVIDED FOR THE SEED PLANT TOUR.

NOTE: PRESENTATION DESCRIPTIONS CAN BE FOUND AT THE BACK OF THE AGENDA.

*THE ENVU/AVM **ICE BREAKER AND CRIB TOURNAMNENT** IS PROUDLY BROUGHT TO YOU BY ADVANTAGE VM AND ENVU ON MONDAY NIGHT 6:00 PM - 11:00 PM*

PESTICIDE APPLICATOR CREDITS

9 credits are available including Pest Management, Regulations, Environment, and Technology

License Key:
Ae - Aerial
Ag - Agriculture
I - Industrial
F - Forestry
L - Landscape

CEU CREDITS

18 credits are available.

Credit Key:
NM - Nutrient Management
SWM - Soil & Water Management
IPM - Integrated Pest Management
CM - Crop Management

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IN-SERVICE TRAINING

DEERFOOT INN & CASINO
TUESDAY DECEMBER 5TH, 2023

7:00 AM - 8:15 AM: BREAKFAST

8:15 AM - 8:30 AM	**ANNOUNCEMENTS/LAND RECOGNITION, NATIONAL ANTHEM & OPENING REMARKS** PRESENTED BY: JEFF GUIDOLIN (EDUCATION COMMITTEE), DAWN FORTIN (WOODLANDS COUNTY), AND AARON VAN BEERS (AAAF PRESIDENT)
8:30 AM - 9:00 AM	**NEW PROGRAMS UNDER THE SUSTAINABLE CAP FRAMEWORK** PRESENTED BY: GISELLE ULRICH (GOVERNMENT OF ALBERTA)
9:00 AM - 9:45 AM	**CROP DISASTER EMERGENCY RESPONSE** PRESENTED BY: KRISTA DEMILLIANO (GOVERNMENT OF ALBERTA)

9:45 AM - 10:15 AM: BREAK

10:15 AM - 11:30 AM:	**CN RAIL AND THE AAAF-WORKING TOGETHER SAFELY** PRESENTED BY: LAURA HAMMER (CN RAIL)
11:30 AM - 12:00 PM	**EFFICACY OF INDAZIFLAM FOR THE CONTROL OF INVASIVE ANNUAL GRASSES IN CANADIAN RANGELANDS** PRESENTED BY: VICKI MALONEY (ENVU) *CREDIT: PEST MANAGEMENT (AE, AG, I, F, L), CEU (IPM - 0.5)*

12:00 PM - 1:00 PM: LUNCH BREAK

1:00 PM - 1:30 PM	**SAVE THE EDGES** PRESENTED BY: PERRY MCCORMICK (PHEASANTS FOREVER CANADA) *CREDIT: CEU (IPM - 0.5)*	1:00 PM - 2:00 PM	**WATER ACT** PRESENTED BY: TAISIYA CHUCHVAHA (ENVIRONMENT AND PROTECTED AREAS) *CREDIT: CEU (NM - 1)*
1:30 PM - 2:00 PM	**MANAGEMENT AND CONSERVATION OF ALBERTA'S FARMLAND BATS** PRESENTED BY: CORY OLSON (WILDLIFE CONSERVATION SOCIETY CANADA)		

2:00 PM - 2:30 PM: BREAK

2:30 PM - 3:00 PM	**INFORMATION MANAGEMENT IN THE 21ST CENTURY** PRESENTED BY: LISA RANGEN (LACOMBE COUNTY)	2:30 PM - 3:00 PM	**WATER POLICY** PRESENTED BY: LUIS FOSSI (ENVIRONMENT AND PROTECTED AREAS) *CREDIT: CEU (SWM - 0.5)*
3:00 PM - 3:45 PM	**STRYCHNINE ALTERNATIVES FOR GROUND SQUIRREL CONTROL** PRESENTED BY: DR. JAMES TANSEY (SASKATCHEWAN MINISTRY OF AGRICULTURE) *CREDIT: CEU (IPM - 0.5)*	3:00 PM - 4:00 PM	**CULTIVATING COEXISTENCE: WETLANDS, MUNICIPALITIES & AGRICULTURE** PRESENTED BY: BART MUUSSE (DUCKS UNLIMITED CANADA) *CREDIT: CEU (IPM - 1)*
3:45 PM - 4:15 PM	**DISEASE OUTBREAKS AND DISPOSAL PLANNING** PRESENTED BY: DR. KEITH LEHMAN (ALBERTA AGRICULTURE AND IRRIGATION) *CREDIT: CEU (IPM - 0.5)*		

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IN-SERVICE TRAINING

DEERFOOT INN & CASINO
WEDNESDAY DECEMBER 6TH, 2023
INDUSTRY DAY

7:00 AM - 8:15 AM: BREAKFAST	
8:15 AM – 8:30 AM	**ANNOUNCEMENTS** PRESENTED BY: GEORGE BLOOM (EDUCATION COMMITTEE)
8:30 AM – 9:30 AM	**PRESCRIBED FIRE AS A LAND MANAGEMENT TOOL - A PATHWAY IN** PRESENTED BY: DINYAR MINOCHER & DR. ROY VERA VELEZ (CANADIAN PRAIRIES PRESCRIBED FIRE EXCHANGE) *CREDIT: CEU (IPM - 1)*
9:30 AM – 10:30 AM	**REGULATORY BACKGROUND SURROUNDING THE REGISTRATION OF PESTICIDES IN CANADA** PRESENTED BY: VICKI MALONEY (ENVU) *CREDIT: REGULATIONS ((AE, AG, I, F, L), CEU (IPM - 1)*
10:30 AM - 11:00 AM: BREAK	
11:00 AM – 12:00 PM	**AVOIDING DISASTER – LOOKING BEYOND LABEL BASICS** PRESENTED BY: ANDREA SAWATZKY (HEALTH CANADA) *CREDIT: REGULATIONS (AE, AG, I, F, L)*
12:00 PM - 1:00 PM: LUNCH BREAK	
1:00 PM – 2:00 PM	**WEED BIOCONTROL IN ALBERTA: OUR NEWEST 'KIDS' IN THE PIPELINE AND FIELD** PRESENTED BY: ROSE DE CLERCK-FLOATE (AGRICULTURE AND AGRI-FOOD CANADA) *CREDIT: PEST MANAGEMENT (AE, AG, I, F, L)*
2:00 PM – 2:30 PM	**MONITORING FOREST HEALTH IN ALBERTA – 2023 SURVEY RESULTS** PRESENTED BY: CAROLINE WHITEHOUSE (GOVERNMENT OF ALBERTA) *CREDIT: ENVIRONMENT (I, F)*
2:30 PM - 3:00 PM: BREAK	
3:00 PM – 4:00 PM	**INNOVATIONS AND IDEAS FOR SAFE HERBICIDE APPLICATIONS** PRESENTED BY: ERIN MCILWRAITH (CITY OF LETHBRIDGE)& DR. BILL HAMMAN (HAMMAN AG RESEARCH INC.) *CREDIT: TECHNOLOGY (PENDING)*
4:00 PM – 4:30 PM	**COW PATTY CRITTERS: SEASON-LONG SUPPRESSION IN DUNG OF CATTLE TREATED WITH A VETERINARY PARASITICIDE** PRESENTED BY: KEVIN FLOATE (AGRICULTURE AND AGRI-FOOD CANADA) *CREDIT: PEST MANAGEMENT (AG)*

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DEERFOOT INN & CASINO
THURSDAY DECEMBER 7TH, 2023

7:00 AM - 8:15 AM: BREAKFAST

8:15 AM - 8:20 AM

ANNOUNCEMENTS
PRESENTED BY: SHELBY ORACHESKI (EDUCATION COMMITTEE)

8:20 AM - 9:00 AM

FIELDMEN SHOWCASE: LIVESTOCK DATABASE TO SUPPLEMENT LIVESTOCK EMERGENCY
PRESENTED BY: SONJA RAVEN (COUNTY OF GRANDE PRAIRIE)

9:00 AM - 9:30 AM

DRONES FOR COUNTIES – FROM SCOUTING TO SPRAYING
PRESENTED BY: MARKUS WEBER (LANDVIEW)

9:30 AM - 10:00 AM

HERE COMES FMD?
PRESENTED BY: KARIN SCHIMD (ALBERTA BEEF PRODUCERS)
CREDIT: PEST MANAGEMENT (AG)

10:00 PM - 10:30 PM: BREAK

10:30 AM - 11:00 PM

GRASSHOPPERS FINDINGS FROM CAP GRANT
PRESENTED BY: DAN JOHNSON (UNIVERSITY OF LETHBRIDGE)

11:00 PM - 12:00 PM

EMERGING TECHNOLOGY TO ENABLE PRECISION RANCHING
PRESENTED BY: DR. JOHN CHURCH (THOMPSON RIVERS UNIVERSITY)
CREDIT: CEU (CM - 1)

12:00 PM - 1:00 PM: LUNCH BREAK

1:00 PM - 2:15 PM

HOW POISONOUS PLANTS IMPACT CATTLE PERFORMANCE
PRESENTED BY: BARRY YAREMCIO (YAREMCIO AG CONSULTING LTD.)

GRASSHOPPER IDENTIFICATION
(30 SPECIMEN BOXES AVAILABLE, FIRST COME FIRST SERVED)
PRESENTED BY: DAN JOHNSON (UNIVERSITY OF LETHBRIDGE)
CREDIT: CEU (IPM - 1)

RIPARIAN REVERBERATIONS – WHY RIPARIAN HEALTH MATTERS AND HOW TO MONITOR IT
PRESENTED BY: NORINE AMBROSE (COWS & FISH)

2:15 PM - 2:45 PM: BREAK

2:45 PM - 4:15 PM

ANNUAL GENERAL MEETING
PRESENTED BY: AAAF EXECUTIVE COMMITTEE

4:15 PM - 5:30 PM: FREE TIME

6:00 PM: BANQUET (NO MINORS, EVENT IS IN THE CHROME ROOM IN THE CASINO)

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MONDAY, DECEMBER 4TH

ALBERT ANDERSON - SEED PLANT TRAINING

Tour of the Strathmore and Hussar Seed Cleaning Plants and conduct a mock inspection with new form.

MICHAEL MARLOW & ANNA MANGAN - AN OVERVIEW OF THE UNITED STATES DEPARTMENT OF AGRICULTURE'S NATIONAL FERAL SWINE PROGRAM:

Genetic tools can play a key role in invasive species management, particularly for challenging species such as feral swine. Benefits can include information gained from monitoring before, during, and after a new invasion or removal efforts; describing the organization of populations; and modeling natural and human-mediated movement. Importantly, the application of genetic tools works hand-in-hand with other methods for feral swine management and elimination. This presentation will discuss various genetic approaches of the USDA's National Wildlife Research Center's Wildlife Genetics team and the Feral Swine Genetics Archive in collaboration with the National Feral Swine Damage Management Program and discuss challenges and advantages of implementing such efforts.

KAREN WICKERSON - FORM 7 TRAINING

Form 7 Training and certification is required to handle, store and use Sodium Monofluoroacetate (Compound 1080) for coyote control in Alberta. The presentation will outline the regulations set by Health Canada to dispense Compound 1080 to producers. The presentation will be 45 minutes to an hour with an exam to follow.

TUESDAY, DECEMBER 5TH

GISELLE ULRICH - NEW PROGRAMS UNDER THE SUSTAINABLE CAP FRAMEWORK

An overview of current programs offered under Sustainable CAP including: Resilient Agricultural Landscape Program, Farm Technology Program, Efficient Grain Handling Program, Water Program and the On-Farm Value Add Program.

KRISTA DEMILLIANO - CROP DISASTER EMERGENCY RESPONSE

An overview of emergency management for Agriculture in Alberta, focusing on plant health emergencies and the crucial role municipalities play in preparedness and response. By understanding risks, taking proactive measures, and fostering collaboration, we can safeguard our agricultural sector and ensure its long-term sustainability.

VICKI MALONEY - EFFICACY OF INDAZIFLAM FOR THE CONTROL OF INVASIVE ANNUAL GRASSES IN CANADIAN RANGELANDS

In recent years the increased introduction of invasive species, including invasive annual grasses, is having a larger and larger impact on species diversity and forage value within Canada's native rangelands. The key to understanding how to control the spread of annual grasses is to understand the physiology of the grass itself. Most invasive annual grasses rely on seed production to reproduce. Yet, seeds can survive in the soil for up to five years. Therefore, management goals should be focused on eliminating seed production and exhausting the soil seed bank. To this end, preemergent herbicide treatments are often used to control annual grasses. However, in Canada, there are currently no preemergent herbicides that are registered for use in native rangelands. In the US, the chemical indaziflam has shown great promise in controlling annual grasses in rangeland and pastures. In Canada, indaziflam is currently registered by Envu™ under the trade name Esplanade™SC and has been approved for the control of annual grasses in non-residential non-crop areas but not for range and pasture. Data from trials throughout the western US and Canada will be presented to provide evidence for the efficacy of indaziflam in controlling annual grasses in rangeland and pasture.

LAURA HAMMER - CN RAIL AND THE AAAF-WORKING TOGETHER SAFELY

This presentation will focus on the safety of weed inspectors and spray crews around active CN line by a member of CN safety and security. It will also discuss CN's vegetation management programs.

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PERRY MCCORMICK - SAVE THE EDGES

Save the Edges is an awareness campaign for the conservation of intact roadside ditches and right of ways, emphasizing the natural benefits that these features bring to the landscape.

CORY OLSON - MANAGEMENT AND CONSERVATION OF ALBERTA'S FARMLAND BATS

Many bat species rely on agricultural lands for their survival and have become an important component of farmland ecosystems. At least two species rely on farm buildings as sites for rearing offspring and most species benefit from agricultural practices that promote healthy, diverse landscapes with rich insect communities. Alberta could potentially support millions of bats, yet over half of Alberta's bat species are now at risk of extinction because of new and worsening threats caused by human activities. Fortunately, there are many ways that agricultural practitioners can help bats. This presentation will discuss the management of bats in Alberta, current threats, and the unique role of agriculture for their conservation and recovery in the province.

LISA RANGEN - NFORMATION MANAGEMENT IN THE 21ST CENTURY

A review of the evolution of records and information management through history, the parallel technological evolution, and the critical need for robust and modern digital information management systems in today's information environment(s).

DR. JAMES TANSEY - STRYCHNINE ALTERNATIVES FOR GROUND SQUIRREL CONTROL

Several products are currently registered for the control of Richardson's ground squirrel. They include the anticoagulants chlorophacinone (Rozol RTU) and diphacinone (Ramik Green), and Zinc Phosphide (Burrow Oat Bait and ZP Rodent Oat Bait AG). All these products were demonstrated to be effective at reducing RGS populations but differed in their efficacies, with numerically poorer performance and higher costs of anticoagulant baits. Here, we present the results of a comparative study to evaluate the relative efficacies of strychnine and several registered alternatives. Alternatives were chosen based on ease and broad permissibility of use. None of the products tested require specialized licensure or training in Canada and all are commercially available.

DR. KEITH LEHMAN - DISEASE OUTBREAKS AND DISPOSAL PLANNING

The federal and provincial governments both have lists of reportable and notifiable diseases. Reportable diseases may warrant a response to control the disease that includes several steps, from initial investigation to reporting, disease response and surveillance. One of the response options may include mass depopulation and disposal of infected or exposed animals. A review of different responses including the recent avian influenza outbreak will be compared and contrasted along with a discussion on roles and responsibilities of different parties.

TAISIYA CHUCHVAHA - WATER ACT

Navigating the Water Act – regulatory requirements and regulatory process outlined under the Water act for different types of authorizations.

LUIS FOSSI - WATER POLICY

A summary of the Water Act, approval requirements and compliance process with a focus on the Alberta Wetland Policy and its' objectives, processes and implementation.

BART MUUSSE - CULTIVATING COEXISTENCE: WETLANDS, MUNICIPALITIES & AGRICULTURE

Wetlands are important ecosystems that play a significant role in supporting water quality, quantity and climate regulation. In the context of Alberta's agricultural landscape, understanding the municipal role surrounding wetlands is crucial for sustainable land management. This presentation looks at the intricate relationship between wetlands and agriculture in Alberta, focusing on the role of agricultural fieldmen.

WEDNESDAY, DECEMBER 6TH

DINYAR MINOCHER & DR. ROY VERA VELEZ - PRESCRIBED FIRE AS A LAND MANAGEMENT TOOL - A PATHWAY IN

While our relationship with fire on the prairies has varied and grown complicated over the years, it's widely agreed upon that the Great Plains only exist in the first place as a combination of grazing, climate, and fire. In the absence of fire in the last 50-100 years, we are seeing unprecedented amounts of encroachment by woody shrubs, trees, and non-fire adapted invasive species. While fire won't solve all our problems, the reintroduction of low intensity controlled prescribed fires has the potential to push back encroachment, making available more grazing acres and a higher abundance of productive feed. Prescribed fire also helps break down old thatch, promoting nutrient cycling and the release of beneficial minerals back into the soil.

When considering the obstacles behind reimplementing safe fire back onto the landscape, on the top of the list is an inability for most folks to access training, best practices or even the conversation surrounding the use of fire. Outside of the public sector in Canada, the avenues into prescribed fire are extremely limited. With that, the Canadian Prairies Prescribed Fire Exchange aims to make the fire environment more inclusive, and provide an avenue for all organisations, landowners, and groups to adopt the practice.

VICKI MALONEY - REGULATORY BACKGROUND SURROUNDING THE REGISTRATION OF PESTICIDES IN CANADA

The presentation will address the PMRA data requirements and timelines for herbicide label additions (ie Additional Use Cases and species)

ANDREA SAWATZKY - AVOIDING DISASTER – LOOKING BEYOND LABEL BASICS

This presentation will take a deep dive into labelling; knowing your labels will help guide you to safe compliant pesticide applications. Besides explaining who we are, this presentation will give you a better insight to pesticide labels such as the language of the label, the WHY of labels (with real-life consequences), what a label statement tells you, and more.

ROSE DE CLERCK-FLOATE - WEED BIOCONTROL IN ALBERTA: OUR NEWEST 'KIDS' IN THE PIPELINE AND FIELD

Alberta continues its fight against invasive plants plaguing agriculture and environment, with biocontrol being an important tool in the bag of management options. Results from our lab's most recent biocontrol projects of interest to Alberta will be shared (e.g., yellow toadflax, oxeye daisy, common tansy, Russian olive), along with an introduction to our latest insect agents; either still under study in quarantine or newly released in the field. A main aim of biocontrol science is trying to understand the natural interactions between agents and their hosts in the development of host-specific (i.e., safe), effective and predictable control of invasive pests, hopefully across a range of habitats. The path to releasing and then monitoring a new weed biocontrol agent is long and challenging, but so worth the effort to researchers and stakeholders alike when winners emerge.

CAROLINE WHITEHOUSE - MONITORING FOREST HEALTH IN ALBERTA – 2023 SURVEY RESULTS

The occurrence of forest insects and diseases, as well as tree dieback and mortality are monitored by Alberta Forestry and Parks staff. Several methods are used to monitor disturbance (excluding wildfire) which includes ground and aerial surveys conducted on forested public lands. Caroline will review Alberta's monitoring programs, and discuss results from 2023 surveys, with a focus on two projects assessing the recovery of hail-damaged forests along the eastern slopes of the Rocky Mountains.

ERIN MCILWRAITH & DR. BILL HAMMAN - INNOVATIONS AND IDEAS FOR SAFE HERBICIDE APPLICATIONS

The presentation will provide application strategies to consider for the control of Invasive and Noxious weeds in farming non-crop and industrial sites. It will highlight the technical features and benefits of the new products available from various herbicide manufacturing companies, including recent innovations and ideas to include in your 2024 weed control program. Erin McIlwraith will bring her knowledge and experiences in safe application practices with the City of Lethbridge and include innovative and success stories from Lethbridge. Ideas for the management of Glyphosate Resistant kochia (a super weed?) will also be discussed.

KEVIN FLOATE - COW PATTY CRITTERS: SEASON-LONG SUPPRESSION IN DUNG OF CATTLE TREATED WITH A VETERINARY PARASITICIDE

Fresh cattle dung is home to a rich community of diverse insects. Their feeding, breeding and tunnelling activities provide importance ecosystem services that include the restoration of nutrients to pasture soils and increased soil permeability to water and air. By accelerating the removal of dung from the soil surface, they also eliminate breeding sites for parasites of cattle and remove the pat as a barrier to the growth of new vegetation. My lab recently examined how this community is affected by residues in dung of cattle treated with the parasiticide LongRange® eprinomectin. In two experiments, dung of untreated cattle supported more total insects and insect taxa than did dung of cattle treated for ≤ 12 weeks (Experiment 1) and ≤ 25 weeks (Experiment 2) previously. Suppression of individual taxa was detected in dung of cattle treated ≤ 25 weeks previously. Thus, cattle treated with LongRange in spring will faecally excrete residues for the entire grazing season with an associated simplification of the dung insect community. The effect of this simplification on the long-term health of dung-breeding insect populations on pastures and on dung degradation was not examined in the present study, but merits future research.

THURSDAY, DECEMBER 7TH

SONJA RAVEN - FIELDMEN SHOWCASE: LIVESTOCK DATABASE TO SUPPLEMENT LIVESTOCK EMERGENCY

In response to emergencies arising from wildfires and floods in the Peace Region, the County of Grande Prairie tasked the Ag Fieldman with developing a Livestock Emergency Response Plan to ensure the County would be prepared to assist agricultural producers and livestock owners in the event of an emergency. Sonja and her team researched the livestock types and numbers in the County and developed a searchable database to assist in identifying affected people and livestock, as well as the types of resources needed to best help them in the event of an emergency. From this, the Livestock Emergency Response Plan was born.

She will be speaking about the process used and the systems and procedures developed, as well as the experiences and learning gained from using the Plan during two wildfire events in the County in 2022 and 2023.

MARKUS WEBER - DRONES FOR COUNTIES – FROM SCOUTING TO SPRAYING

A discussion on how drones can be used to scout, map and apply product. There are zoomable, thermal, LiDAR, and multispectral sensors that can capture data beyond what the human eye can see. He will touch on the regulations around drones too, but really focus on the many real-world opportunities for counties.

KARIN SCHIMD - HERE COMES FMD?

This presentation will cover the basics of foot and mouth disease, the threat it poses to multiple agricultural industries, and summarize ongoing work by industry and government to strengthen preparedness & response efforts.

DAN JOHNSON - GRASSHOPPERS FINDINGS FROM CAP GRANT

Until recently, knowledge of prevalence of species of grasshoppers, and corresponding differences in forecasting, risk, damage, and timing, in Alberta were based on a small number of research sites and collections. Each region has dominant species that can increase or decline. Three recent programs and projects have filled in the details. A Canadian Agricultural Partnership research project allowed field and laboratory study of the distribution, pathology, parasitism, molecular biology, biogeography, and forecasting of Bruner's Spur-throat Grasshopper, a dominant species in northern regions but nearly absent in southern regions. Southern and central regions have some different species, and some in common with the north. AAAF and Alberta Agriculture and Irrigation provided additional collaboration by collecting grasshoppers at survey sites. A total of 681 sweepnet sample bags were provided from northern regions, containing 11,787 grasshoppers, which were identified to species at the University of Lethbridge. A total of 364 sweepnet bags were sent from southern regions (taxonomy in progress). These databases were combined with the longterm database of Alberta grasshopper survey data (1970-2019) collected by AAAF in cooperation with AAFC, Alberta Agriculture and Irrigation, and researchers, and compared to weather patterns. The results inform recommendations for improving forecasting efficiency and accuracy.

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DR. JOHN CHURCH - EMERGING TECHNOLOGY TO ENABLE PRECISION RANCHING

Precision ranching technology is revolutionizing remote date collection from livestock and the land base they depend on. Remotely Piloted Aircraft System (RPAS or drone) based remote sensing to date has been used to assess intensive cropping; but RPAS systems equipped with interchangeable cameras: high-resolution visual, thermal, LiDAR, and multi/hyperspectral imagers are now being deployed on pasture to monitor subtle changes in the visible, near infrared and infrared spectrums (radiation) that both plants and animals reflect. A single RPAS system can now be used simultaneously for high-quality vegetation mapping and the location, identification and behavioral analysis of animals, providing new tools for studying livestock in a variety of landscapes and rugged terrain. Equipping cattle with new tracking technology, including “smart” GPS ear tags, rumen boluses, and wireless fencing collars (based on low-earth orbit satellites and cellular networks) enable animals to be readily identified and tracked on the landscape, while providing invaluable physiological data, such as body temperature, to monitor estrous, heat stress, or the onset of disease. Additionally, the new wireless fencing systems have potential to improve animal management through autonomous mustering or adaptive multi-paddock grazing for use in regenerative agriculture efforts; and will improve the sustainability of livestock production systems.

BARRY YAREMCIO - HOW POISONOUS PLANTS IMPACT CATTLE PERFORMANCE

Cattle are curious creatures. They eat almost anything to determine if they like the taste or texture. Unfortunately, there are plants that contain various toxins or chemical compounds that are harmful. This presentation will discuss what compounds are found in poisonous plants and how they impact animal performance.

NORINE AMBROSE - RIPARIAN REVERBERATIONS – WHY RIPARIAN HEALTH MATTERS AND HOW TO MONITOR IT

Got too little water, too much? Too many beavers, not enough? Worried about your communities resiliency to flood and drought? Riparian areas impact the land and water, and communities they are a part of, so understanding how healthy they are can help with land management, water management challenges and even wildlife coexistence. Monitoring their health starts with eye-tuning, knowing what indicators to look for, as well as finding ways to connect to landowners and community members to help them understand the they play in determining the health and function of these places. Completing the circle of impact is about sharing practical examples and techniques that can actually be used to improve or maintain that health.