

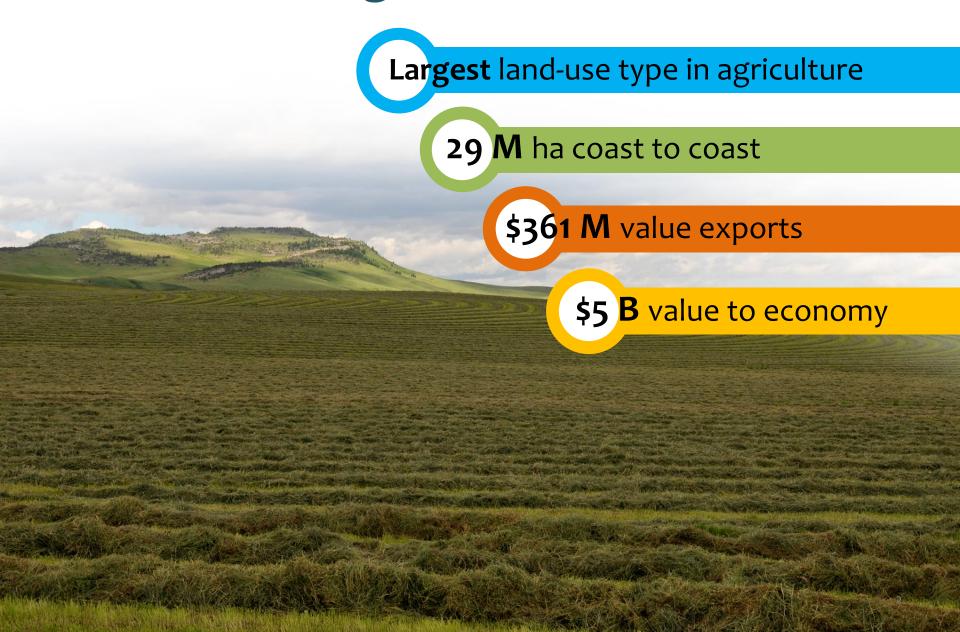
# Forage-Grassland Research and Development Update

CFGA 2019 • Moncton, NB

François Eudes, PhD • Sector Director Lead



# **Canada's Forage Sector**



# **Forage Breeding**

## 8 projects \$3.6 M investment

#### **University of Saskatchewan** (Saskatoon):

#### Dr. Bill Biligetu

• Crested wheatgrass; Native grasses; Smooth, Meadow and Hybrid Bromes; Timothy

grass, Switchgrass,

#### AAFC-Québec RDC: **Dr. Annie Claessens**

· Alfalfa, Orchard-Tall fescue, Timothy

#### AAFC-Lethbridge RDC:

#### Dr. Surya Acharya

• Alfalfa, Cicer milkvetch, Fenugreek, Native grasses, Orchardgrass, PC rye, Sainfoin

#### **AAFC-Swift Current RDC:**

#### Dr. Sean Asselin

· Perennial forages (native and dual-use species)

#### Dr. Mike Schellenberg

- · Native grasses, legumes, and shrubs
- Introduced species Alfalfa, Crested and Green wheatgrass, Meadow and Hybrid Brome

#### AAFC-Kentville RDC:

#### **Dr. Yousef Papadopoulos**

• Alfalfa, Birdsfoot trefoil, Red clover

# Forage, Range Capacity

# 52 projects\$11.6 M investment29 Project Leads

#### Agassiz

- Biology and modelling
- Nutrient management

#### Lacombe (Beaverlodge)

- Agronomy
- Pasture systems

#### Québec (Normandin)

- Agronomy
- Breeding
- Modelling
- Molecular genetics
- Plant pathology
- · Physiology, biochemistry
- · Ruminant feed value

### St. John's

- Forage diseases
- Plant pathology

#### **Fredericton**

Forage diseases



- Biotechnology
- Breeding
- Ruminant feed efficiency

#### **Swift Current**

- Annual and saline forages
- · Rangeland, grazing
- Pasture management
- Forage ecophysiology
- · Ruminant feed value

#### Brandon

- Biocontrol, invasive plants
- Range, pasture management



#### London

- Biotechnology
- Genomics

#### Kentville (Nappan)

- Agronomy
- Breeding
- Pasture management
- Ruminant feed value

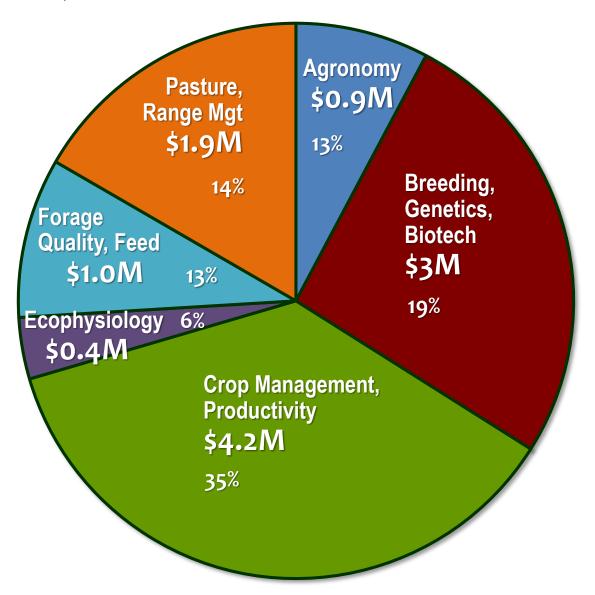
## **FORAGES**

- Sector Priorities

Sustainably increasing productivity, quality and resiliency



### **Projects and Investment** (active 2014-2023)



# **Projects Initiated 2019**

## 6 projects; \$1.2 M

Project Lead	Project Title
Acharya, Surya	Improving lipid content in vegetative tissue to increase nutritive value of herbaceous legume forages
Baron, Vern	Forage potential of hybrid rye
Beauchemin, Karen	Strategies in grass silage production to mitigate enteric CH4 emissions from ruminants
McAllister, Tim	Impact of agricultural land conversion on carbon stocks across Canada, with a focus on grazing lands
Budong, Qian	Sustainable crop production in Canada under climate change. Forage crops - adaption of harvest schedule consisting of additional cuts, would allow increasing yields while maintaining forage nutritive value in most forage production areas in Canada.
Bainard, Jillian	Assessing impact of grazing annual forage cover crops in an integrated crop-livestock system

## New AAFC-led Projects for 2020-

- Managing photosynthesis to increase crop yield and carbon capture
- Increasing sustainability and resiliency of pasture ecosystems and beef production systems through study of microbial communities (soil, plant, ruminant animals) and their interactions

## **Links – Other Sector Priorities**



Beef



**Dairy** 



Microbiome

Valueadded

resiliency

Resource

AMR / **AMU** 

Gene editing

Carbon

(Holos)

## **International Activity**

- International Bioeconomy
  Forum Microbiome
  Working Group
  - Pilot initiative to study
     microbiomes associated to
     pasture in all steps of food
     supply chain
  - Mapping data capacity



Brazil, Denmark, Mexico, Norway, Sweden





## **Considerations for Future**

Aging infrastructure - livestock programs

Succession plan for forage breeders

Opportunities in emerging areas of science

New "Players" in 2018-2019









