



Canadian Forages and LLP

1. The Canadian Forage Seed Sector

- production
- trade

2. LLP - The Canadian Situation

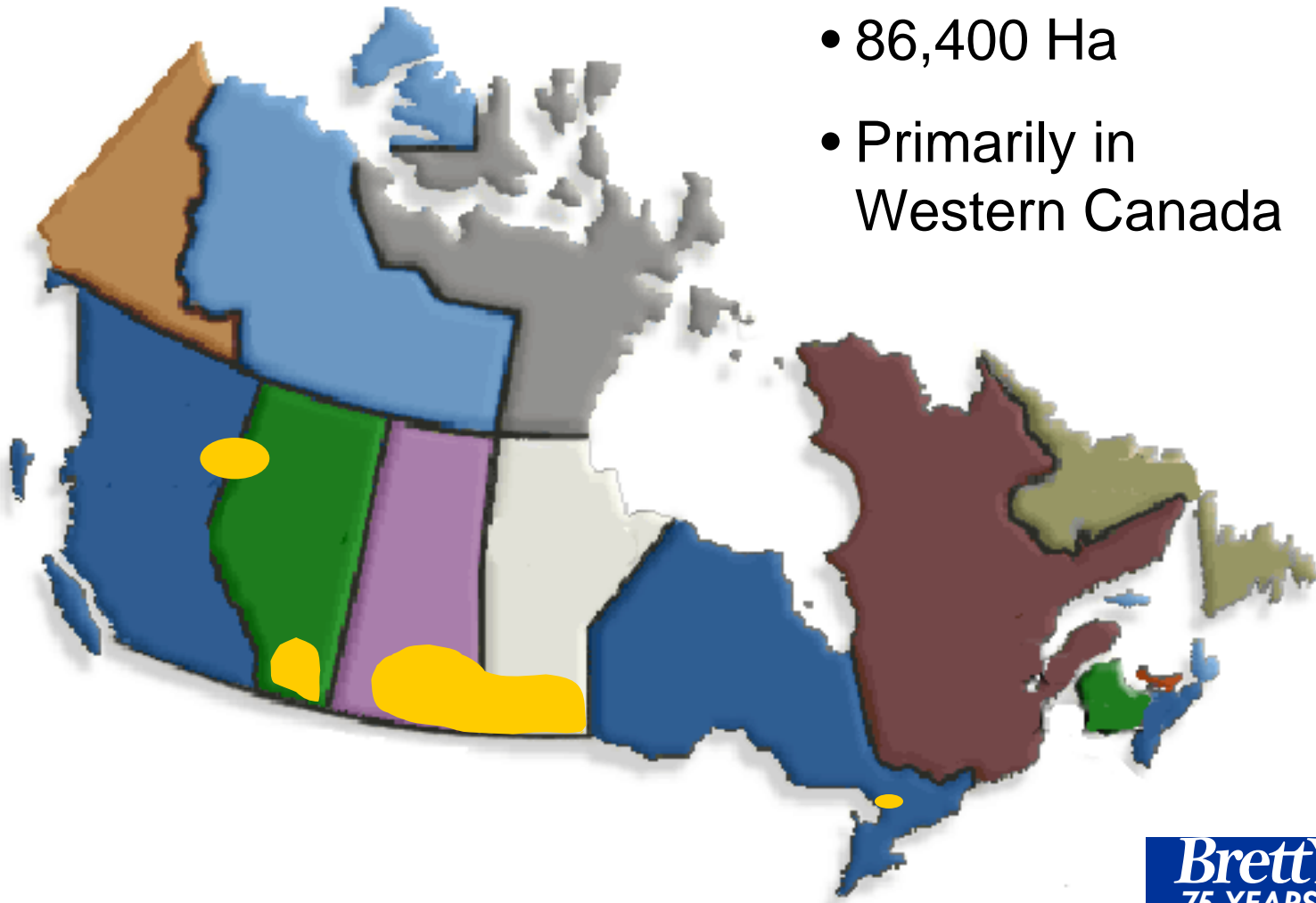
- GM crops
- Introduction of LLP

3. Current and Potential Impact of LLP

The Canadian Forage Seed Sector

Forage Seed Production in Canada

- 86,400 Ha
- Primarily in Western Canada





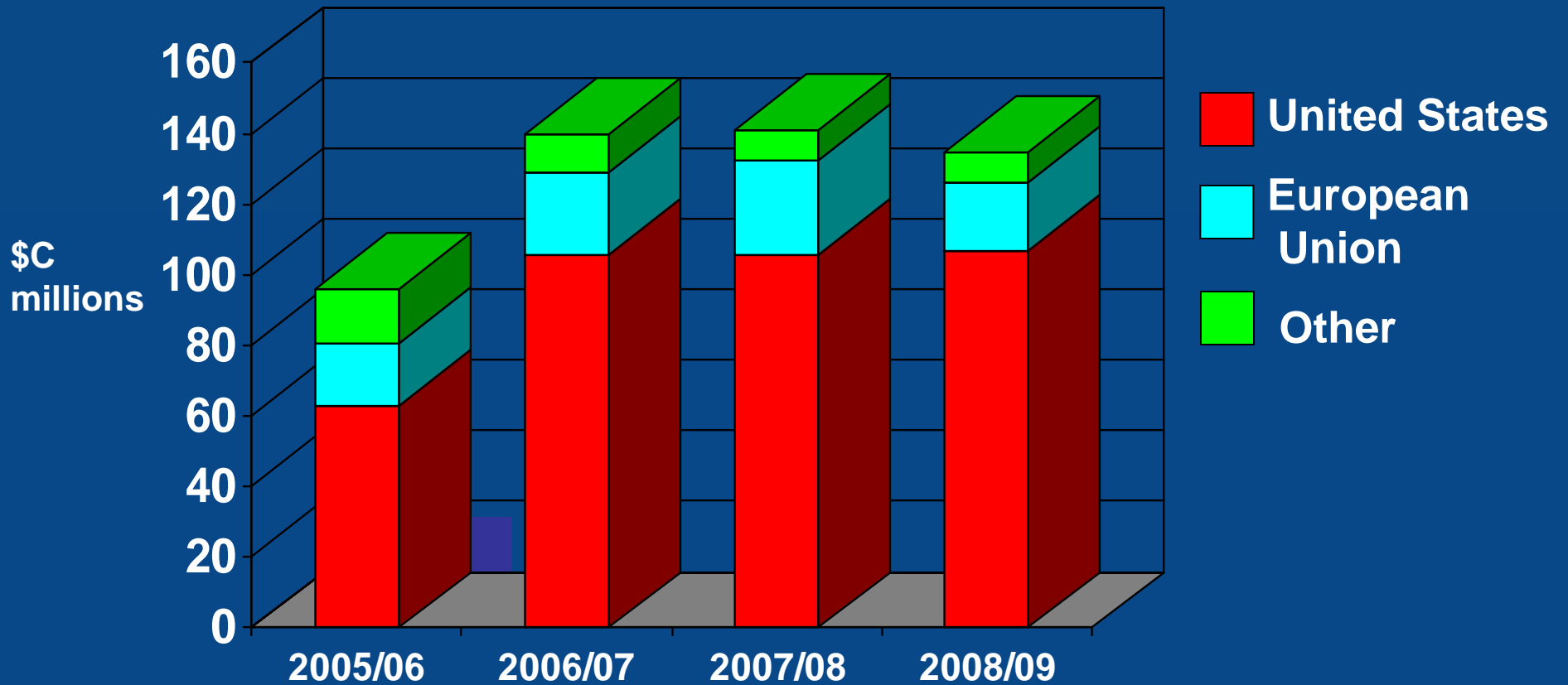
The Canadian Forage Seed Sector

Forage Seed Production in Canada

- Alfalfa40,000 hectares
- Timothy15,000 hectares
- Ryegrasses12,000 hectares
- Fescues8,000 hectares
- Clovers2,400 hectares
- Birdsfoot Trefoil2,000 hectares
- Wheatgrasses,
Brome-grasses7,000 hectares

The Canadian Forage Seed Sector

Canadian Forage Seed Exports





LLP - The Canadian Situation

An Early and Substantial Adopter

Canola

- 6,500,000 Ha
- 95% GM

Corn

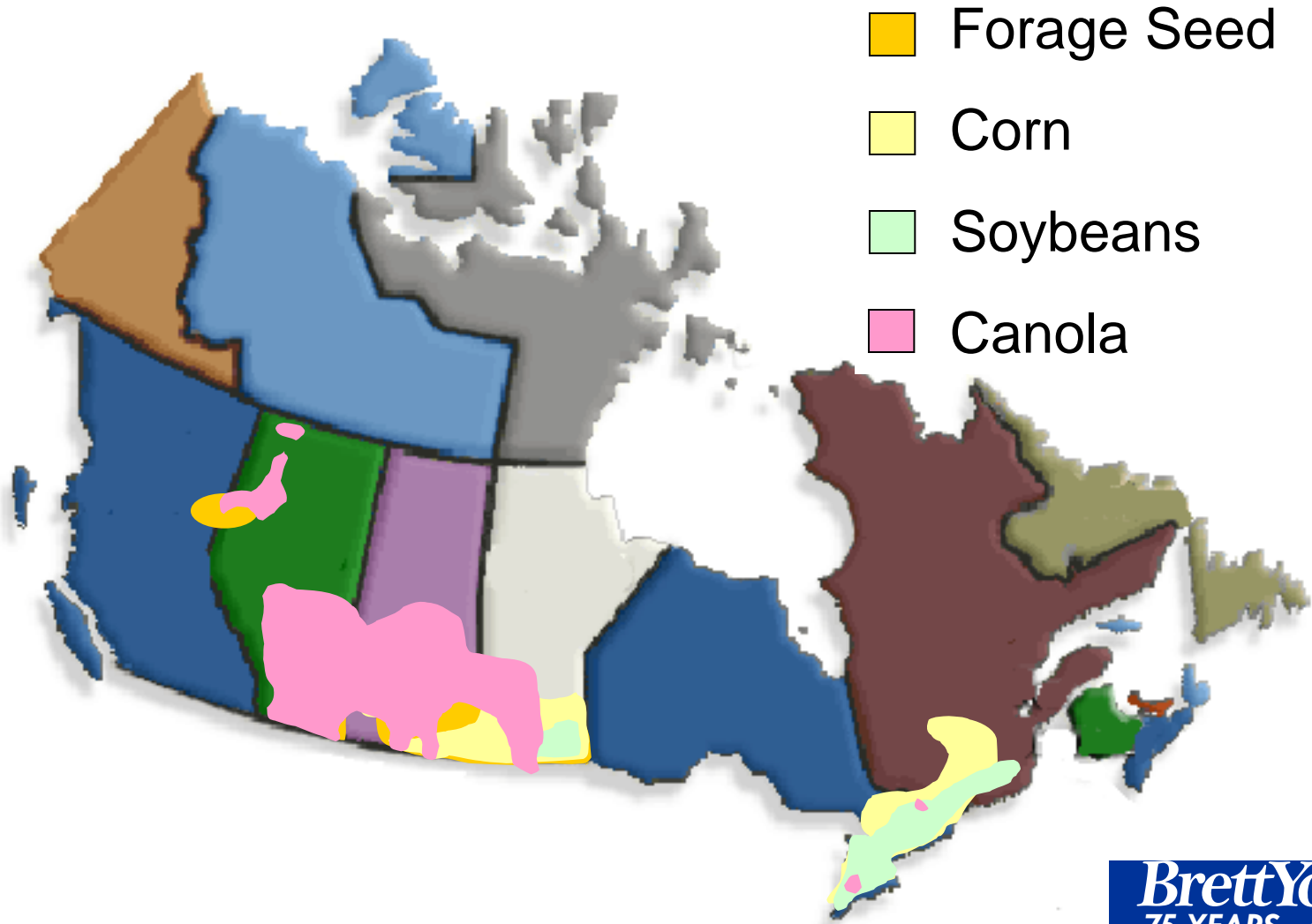
- 1,200,000 Ha
- 90% GM

Soybeans

- 1,400,000 Ha
- 66% GM

**GM Crops
6.9 Million Ha**

LLP - The Canadian Situation





LLP - The Canadian Situation

Potential for Introduction

- Forage Seed Crops 86 thousand Ha
 - GM Crops 6.9 million Ha
- } **80 X**
- Produced in the same regions
 - Produced on the same fields
 - Produced by the same growers
 - Different processors



LLP - The Canadian Situation

Routes of Introduction

- **On farm**
 - Seed stock – low levels allowed by seed standards
 - Crop rotation – GM and forage rotations
 - Handling, transportation and harvest equipment
- **Processing**
 - Some seeds difficult to separate (e.g. Canola, alfalfa and clover)



LLP - The Canadian Situation

Forms of LLP

- GM seed in a forage seed shipment
- GM inert (e.g. dust) in a forage seed shipment
- GM pollen in a forage seed shipment



LLP - The Canadian Situation

Presence is very Low

- Crop rotations, field inspection limit introduction
- Modern cleaning technologies remove much foreign material
- International standards/tolerances for other crop types in seed are stringent



LLP - Current Impact

EU is Canada's 2nd Largest Forage Seed Market

- Alfalfa Seed Exports.....\$C 3.7 million
- Timothy Seed Exports\$C 2.5 million
- Ryegrass Exports\$C 2.0 million
- Fescue Exports\$C 2.0 million
- Clover, Brome grass
Trefoil Exports\$C 2.3 million



LLP - Current Impact

- New contracts with EU customers require 100% GM free guarantees
- Requests for 100% GM free guarantees in existing contracts
- Shipment rejected for a 0.000009% GM presence in a sample



LLP - Current Impact

- Business Disruptions
- Rapidly declining exports
 - Clover seed exports down 70% over last year
 - Certified Timothy seed acres down 40% from last year.
 - Certified Alfalfa seed exports down 30% (YTD)



LLP - Potential Impact

- Challenge to feed a growing world while protecting the environment means increasing adoption of new technologies
- Area planted to GM crops continues to grow around the world
 - 145 million Ha
 - 23 countries
- **“Absolute Zero” is not achievable**



LLP - Potential Impact

Without an Acceptable LLP Policy

- International Trade disruptions will increase
- Canadian forage seed exports to the EU will continue to decline
- Canadian multiplication of EU varieties for re-export to EU will decline (or end)



LLP Policy

LLP Policy Must

- Apply to GM events approved in one or more countries but not country of import
- Accept that zero is not achievable
- Be risk based
- Be based in sound science
- Recognize risk assessment and regulatory approvals of other countries
- Facilitate trade in seed