

Effects of Urbanization on Canadian Agriculture

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APRN Meeting

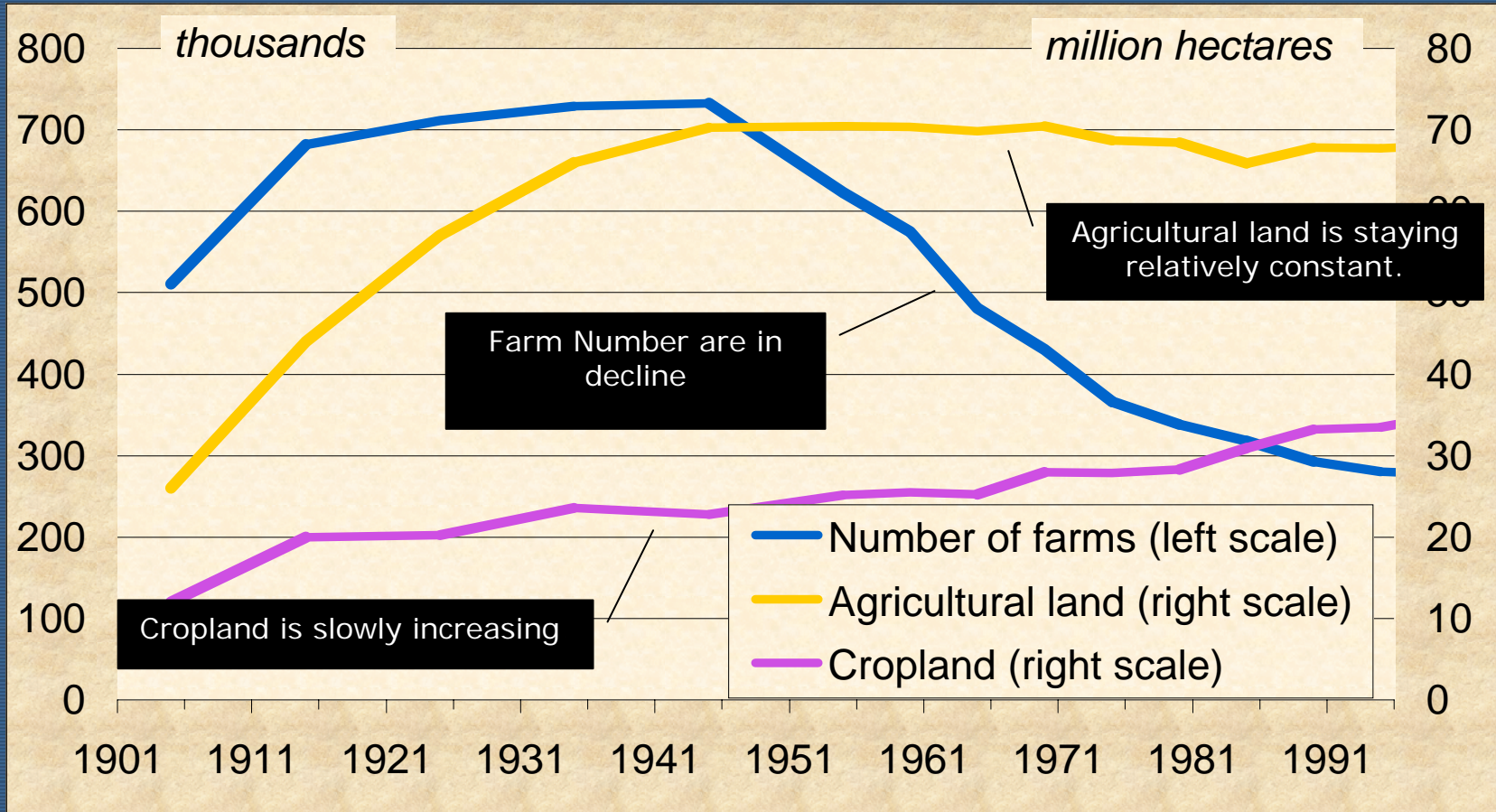
Alymer, PQ

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Introduction

- Number of farmers continue to decline
 - > 1% annual drop since WWII
- Number of non-farm rural residents continues to grow
 - 10% increase in last census

Farm number, Agricultural Land and Cropland 1901- 2001 (Canada)



Source: Human Activity and the Environment 2000, Statistics Canada

Introduction

- Urban populations in Ontario continue to grow rapidly, particularly in prime agricultural areas.
- Given the growth in urban and non-farm rural population in Ontario, what are the constraints and opportunities facing farmers?

Purpose

- To overview 3 research studies completed or underway that examine influence of urbanization on agriculture
 1. Municipal by-laws and barn building location
 2. Adoption of environmental management systems
 3. Farmland values and agricultural zoning

1. *Municipal by-laws & barn building location*

- General trend toward tighter public control of farm production practices
- Establishment of livestock facilities in Ontario controlled by municipalities and the severity of local environmental bylaws varied between municipalities
- Building permit data collected through visits to 42 local township offices in 8 counties

1. Municipal by-laws & barn building location

Number of New Barns and Additions by Sector, 1996-2000.

	Beef	Dairy	Poultry	Swine	Various	Total
New Barns	97	213	221	428	37	996
Additions	61	155	53	151	8	428
Total	158	368	274	579	45	1424

1. *Municipal by-laws & barn building location*

Size of Buildings by Sector, 1996-2000

Size	Beef	Dairy	Poultry	Swine	Various	Total
< 100 L.U.	129	252	152	220	37	790
> 100 L.U.	29	117	122	359	8	634
Total	158	369	274	579	45	1424

1. Municipal by-laws & barn building location

- Most new barns were built in the swine sector
- Twice as many new buildings than additions
- About 60 % of the total buildings were smaller than 100 L.U.
- Most new barns in livestock intensive areas that also had the toughest environmental regulations.

1. Municipal by-laws & barn building location

- Instead of locating to reduce environmental compliance costs, barns are being built largely where the livestock sector is concentrated suggesting the existence of agglomeration economies.
- The normalization of standards across the province will not significantly influence the location decisions of expanding or new livestock facilities which are largely determined by economic factors associated with livestock infrastructure support.

2. Adoption of EMS in agriculture

- The relative proximity of urban populations to farming activities may be a factor that contributes to a farmer's decision to adopt environmental-friendly production practices
 - Municipal regulations
 - Concerns about due diligence
 - Social pressures
- These direct and indirect pressures to adjust farmers' management practices may increase the cost structure of farms located in the urban milieu

2. *Adoption of EMS in agriculture*

- An environmental management system (EMS) is an example of an environmentally-friendly practice
- An EMS documents a firm's activities that affect environmental performance
 - It does not measure the actual impact of the practices on environmental quality
- Adopted for 3 major reasons:
 - Improve bottom line
 - Improve public image
 - Reduce the threat of mandatory regulation

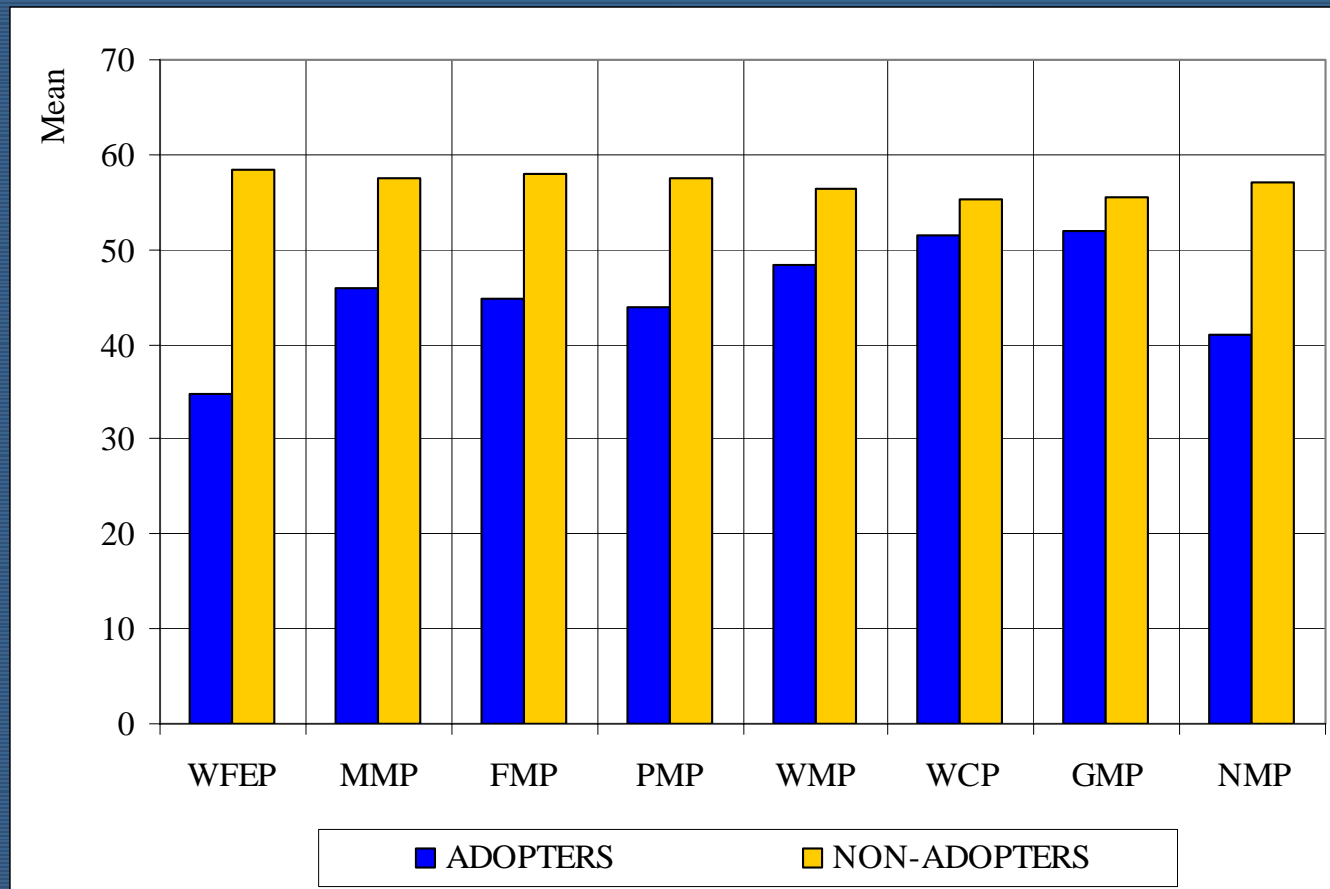
2. *Adoption of EMS in agriculture*

- Distance to an urban centre is smaller for adopters of an EMS than for non-adopters
- Average distance is smallest for most comprehensive plans
- The number of EMSs adopted increases with the degree of urbanization

2. Adoption of EMS in agriculture

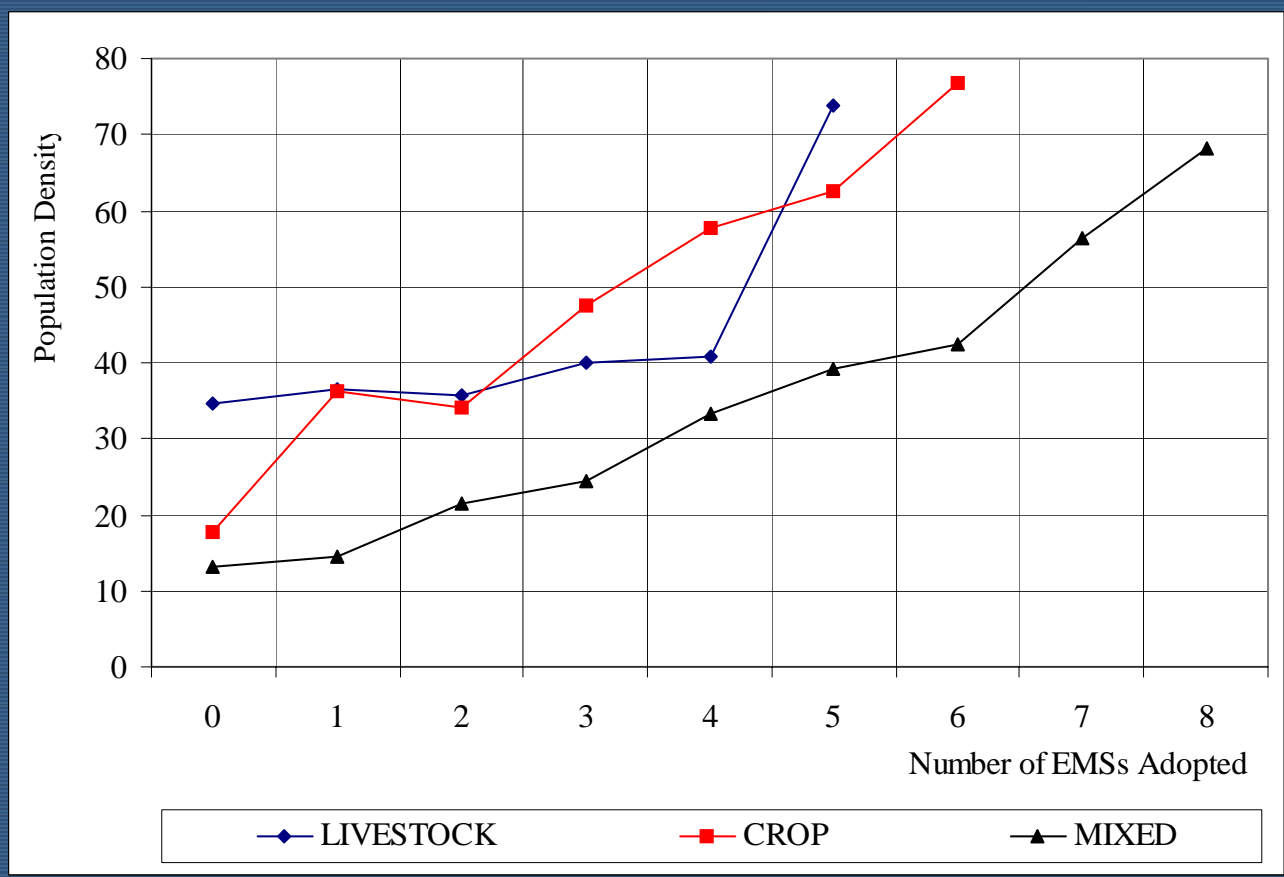
Adoption rates of EMS are higher for farms located closer to urban centres

Distance
to urban
centre
(km)



2. Adoption of EMS in agriculture

Number of EMS adopted increases with population density



3. Farmland values & agricultural zoning

Research/Policy Questions to be Examined

1. Which farmland should we preserve?

- Public support not necessarily correlated to agricultural productivity

2. Do farmers support zoning? Which ones?

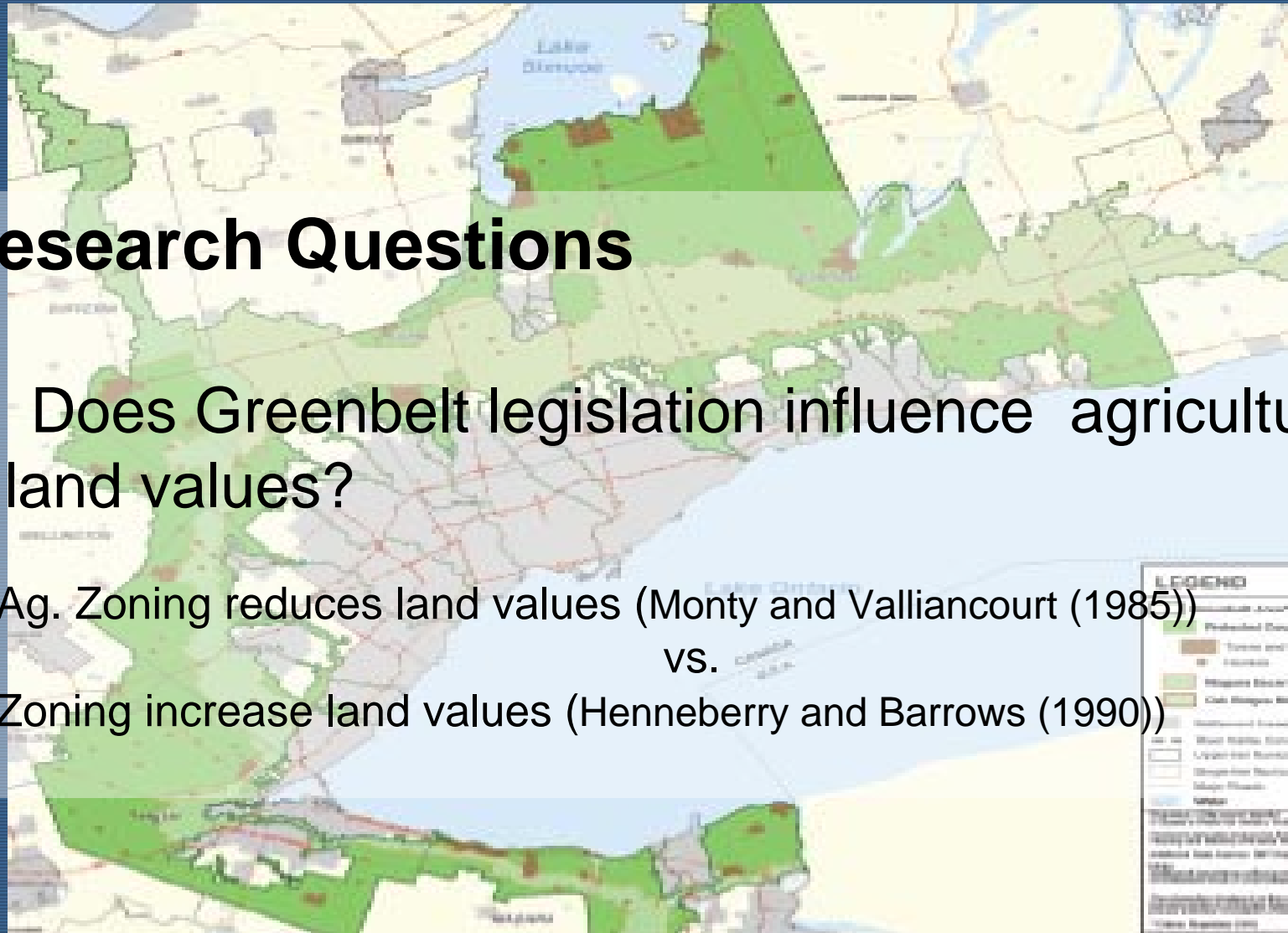
- Farmers are concerned about farmland loss but don't want zoning restrictions for their land

3. Farmland values & agricultural zoning

Research Questions

3. Does Greenbelt legislation influence agricultural land values?

- Ag. Zoning reduces land values (Monty and Valliancourt (1985))
- VS.
- Zoning increase land values (Henneberry and Barrows (1990))



**FARMERS
FEED
CITIES!**