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ALLOCATIVE EFFICIENCY, SUPPLY MANAGEMENT AND CANADIAN AGRICULTURE

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Selected Poster prepared for presentation at the Agricultural & Applied Economics Association's 2013 AAEA & CAES Joint Annual Meeting, Washington, DC, August 4-6, 2013.

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Allocative Efficiency, Supply Management and Canadian Agriculture

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INTRODUCTION

Resources such as land, labor and capital are optimally utilized when regions capitalize on their comparative advantages in production systems with respect to diversities in resource endowment, market and trade dynamics. This is perhaps the case in Canada with an abundance of farm resources, and a dairy industry that is highly protected by supply-restricting government policy.

Supply management in Canada has been widely researched; however one area that has not been given much attention is the impact of supply management on other industries not under regulation by supply-restricting policy.

Moschini (1988) proved both theoretically and empirically that the resource allocation effect of a supply-restricting instrument is not only limited to the industries under regulation. That is, the impact of a government policy is not only limited to the direct impact on the industry where it's been applied, but also on related industries (for instance: industries that produce substitute outputs; or industries that share significant inputs with the industry under regulation).

RESEARCH QUESTIONS

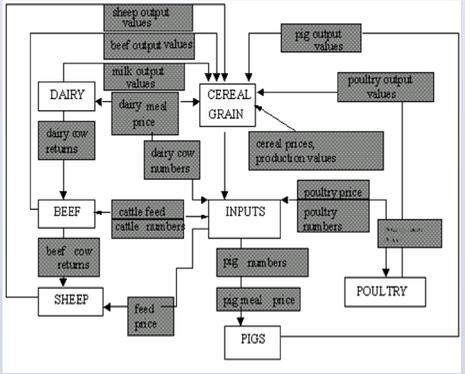
The study attempts to address the following questions:

- How does supply management through linkages with other industries influence the performance of Canadian agricultural sector?
- What are the allocative effects of supply restricting policies on the production structure of an agricultural system?
- What are the effects of supply management on resource use, as well as its indirect effects on red-meat, grains, and oilseeds industries?

METHOD

The methodology consists of price-linked farm and spatial equilibrium programming models. A mathematical programming model of resource allocation and net social revenue has been constructed to study the effect of a broad range of policies, including a supply-restricting policy. Model structure is similar to Batterham and Macaulay (1994) and calibration follows Howitt (1995). The price-response effects from the input sector to products output supply were generated using elasticity estimates from Moschini (1988). The dairy and red meat markets were linked with income, own and cross price elasticities of demand from van Kooten (1989).

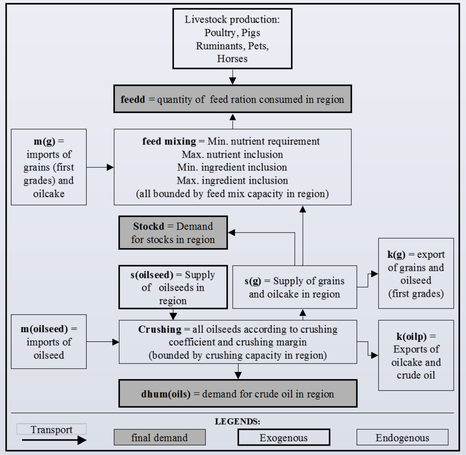
Structural Linkages of the Model



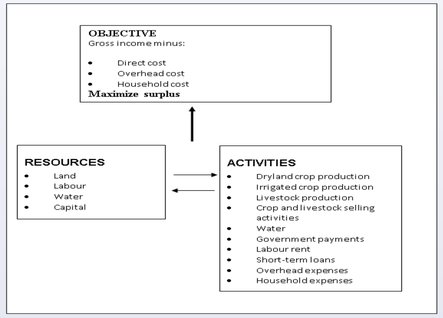
METHOD

In order to incorporate the relation between supply of primary and secondary products in the feed compound industry and feed demand, a regionalised model of the feed compound industry was developed (similar to Hafi & Andrews (1997)).

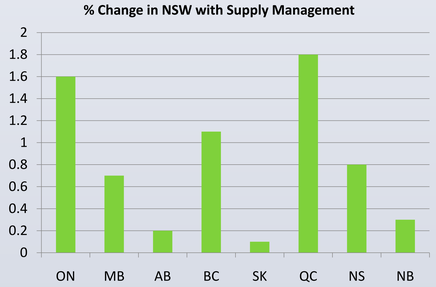
Structure of the Feed Mix Model

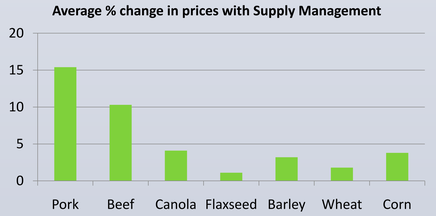


RESULTS



Economic analysis of allocative efficiency effects of supply restraining policy:





CONCLUSIONS

- Overall, allocative efficiency (i.e. When all producers including dairy producers use inputs and feed at the profit maximizing levels) resulted in increase in gross net social revenue.
- The impact of supply management is region-specific, with provinces where dairy production is largest recording the highest effect on net social welfare.
- Simulations of supply scenario suggest that competition for inputs does have an impact on net social revenue.
- The livestock industry generate the highest increase in prices as pork prices increased the most as a result of competition in both factor and output markets.

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