Dealing with Zero Tolerance for Genetically Modified Products: What have We Learned from the EU's Treatment of Canadian Trifid Flax?

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OUTLINE

• Introduction
• Research Problem
• Objectives of the Study
• Results and Discussion
• Conclusion
INTRODUCTION

• Types of flax
  - long fibre – linen (not important in Canada)
  - short fibre and oilseed

• Uses of flaxseed (oilseed)
  * Industrial applications
  * Animal feed
  * Human consumption
Flaxseed Industry of Canada

Seeded Area in 2008/2009

Source: Statistics Canada (2010)
World Flaxseed Production

Source: FAO (2009)
• In September 2009, Genetically Modified (GM) flax variety - CDC Triffid was detected in the EU.

• CDC Triffid was developed by Crop Development Centre of University of Saskatchewan in late 1980s’.

• CDC Triffid has tolerance to soil residues of sulfonylurea based herbicides.

• The EU has a zero tolerance policy for GM crops that have not been approved in the EU.
In Canada, CDC Triffid received:
• feed and environmental safety authorizations in 1996; food safety authorization in 1998.

• However, the EU placed a moratorium on the approval of GM crops in 1999.

• Due to the fear of losing its main market CDC Triffid was deregistered in Canada in 2001.

• It was never released for commercial production in Canada.
• The discovery of GM flax in September 2009 led to a ban on imports of Canadian flax into the EU.

• To meet the EU’s ‘zero tolerance’ policy for Triffid flax, a Sampling and Testing Protocol was developed by Canada and the EU in October, 2009.

• The strict regime set out in the Protocol significantly increases the handling costs all along the supply chain.
• The basis of this market restriction to Canadian flax by the EU is governed under the Agreement on Application of Sanitary and Phytosanitary Measures (SPS) of World Trade Organization (WTO).

• The SPS Agreement considers science as the criterion upon which SPS measures will be evaluated.

• However, the trade restriction on Canadian flax imposed by the EU shows us a questionable use of SPS rationales as a justification for a trade ban.
This study has two objectives.

• First objective is to estimate the total additional cost and change in revenue associated with the EU’s ‘zero tolerance’ of CDC Triffid.

• The second objective is to examine weather the EU policies used to disrupt Canadian flax exports to the EU are compliant with the EU’s SPS obligations.
Protocol developed by Canada and the EU to meet the ‘zero tolerance’ policy

Sampling
1. At the time a producer delivery into the commercial handling system
2. At the time of loading onto the railcar
3. At the time railcars are unloading into terminal elevators

Testing
1. One test for five composite rail car samples
2. One test for each silo
All railcars and silos testing positive for Triffid will be removed from the EU flaxseed supply chain.

For shipments that are Triffid free, the CGC will prepare an official *Letter of Analysis*. 
# Cost of testing

<table>
<thead>
<tr>
<th>Level of the supply chain</th>
<th>Cost ($)</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planting seed level</td>
<td>105.00</td>
<td>60 g per 10 tonnes</td>
</tr>
<tr>
<td>Producer bin level (October 2009 to September 2010)</td>
<td>105.00</td>
<td>60 g per 125 tonnes</td>
</tr>
<tr>
<td>Producer bin level (From September 2010)</td>
<td>240.00</td>
<td>4x 60 g per 125 tonnes</td>
</tr>
<tr>
<td>Rail car level</td>
<td>240.00</td>
<td>4x 60 g per 500 tonnes</td>
</tr>
<tr>
<td>Silo level</td>
<td>240.00</td>
<td>4x 60 g per 1000 tonnes</td>
</tr>
</tbody>
</table>
Model of Conventional Flaxseed Supply Chain

Flaxseed plant breeders

Commercial seed multipliers

Producers

Transport via trucks

Processors

Domestic & Foreign consumers

Transport via trucks

Primary elevators

Transport via trucks

Transport via trucks

Foreign consumers

Transport via trucks

Terminal elevators (Vancouver)

Ocean transportation

Terminal elevators (Thunder Bay)

Laker vessels

Transfer elevators (East coast)

Ocean transportation

Importers

Foreign consumers

5/28/2011
RESULTS & DISCUSSION
# Total Additional Cost and Change in Revenue of Triffid Event in Canada in 2009/2010

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Cost category</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Exports to EU ($)</td>
<td>Total exports including China ($)</td>
</tr>
<tr>
<td>Flaxseed Breeders</td>
<td>CTe</td>
<td>28,000</td>
<td>28,000</td>
</tr>
<tr>
<td></td>
<td>COt</td>
<td>100,000</td>
<td>100,000</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>128,000</td>
<td>128,000</td>
</tr>
<tr>
<td>Certified seed suppliers</td>
<td>CTe</td>
<td>165,672</td>
<td>165,672</td>
</tr>
<tr>
<td></td>
<td>CSe</td>
<td>48,183</td>
<td>48,183</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>213,855</td>
<td>213,855</td>
</tr>
<tr>
<td>Producers</td>
<td>CTe</td>
<td>740,880</td>
<td>740,880</td>
</tr>
<tr>
<td></td>
<td>CSe</td>
<td>24,291</td>
<td>24,291</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>765,171</td>
<td>765,171</td>
</tr>
<tr>
<td>Grain elevator companies</td>
<td>CTe</td>
<td>180,480</td>
<td>344,400</td>
</tr>
<tr>
<td></td>
<td>CSe</td>
<td>1,940,900</td>
<td>4,163,900</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>2,121,380</td>
<td>4,508,300</td>
</tr>
<tr>
<td>SaskFlax</td>
<td>COt</td>
<td>70,900</td>
<td>70,900</td>
</tr>
<tr>
<td>Agriculture and Agri-Food Canada</td>
<td>COt</td>
<td>1,900,000</td>
<td>1,900,000</td>
</tr>
<tr>
<td><strong>Total additional cost</strong></td>
<td></td>
<td><strong>5,199,306</strong></td>
<td><strong>7,586,226</strong></td>
</tr>
<tr>
<td><strong>Change in revenue</strong></td>
<td></td>
<td><strong>-57,798,600</strong></td>
<td><strong>+12,331,600</strong></td>
</tr>
</tbody>
</table>
## Total Additional Cost of Triffid Event in the EU in 2009/2010

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>Cost (CA$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease in profit</td>
<td>231 200</td>
</tr>
<tr>
<td>Recalled products</td>
<td>2 856 000</td>
</tr>
<tr>
<td>Destroyed products</td>
<td>1 768 000</td>
</tr>
<tr>
<td>Storage cost (blocked products)</td>
<td>176 800</td>
</tr>
<tr>
<td>Customers' claims</td>
<td>24 480 000</td>
</tr>
<tr>
<td>Shutting down operations</td>
<td>408 000</td>
</tr>
<tr>
<td><strong>Total Additional Cost (TAC)</strong></td>
<td><strong>32 000 800</strong></td>
</tr>
<tr>
<td>Value of forgone flaxseed imports in the EU</td>
<td><strong>62 748 000</strong></td>
</tr>
</tbody>
</table>

Source: COCERAL and FEDIOL (2010)
SPS Agreement and the ‘zero tolerance’ policy

- In the EU, ‘zero tolerance’ policy for Triffid flax is a precautionary measure.

- Article 5.7 of the SPS Agreement creates disciplines applicable to precautionary measures.
According to Article 5.7 of the SPS Agreement,

The precautionary measure must:

(1) be imposed in respect of a situation where “relevant scientific information is insufficient”; 
(2) be adopted “on the basis of available pertinent information”; 
(3) not be maintained unless the Member seeks to “obtain the additional information necessary or a more objective assessment of risk”; and 
(4) be reviewed accordingly “within a reasonable period of time”.

According to WTO panel on *EC Biotech Products* (DS 292) Article 5.7 does not permit WTO members to override the SPS Article 5.1.

Article 5.1 of the SPS Agreement;

“Members shall ensure that their sanitary or phytosanitary measures are based on an *assessment*, as appropriate to the circumstances, of the risks to human, animal or plant life or health, taking into account risk assessment techniques developed by the relevant international organizations”.
• The Codex Alimentarius Commission (2009) introduced the guidelines for the risk analysis of foods derived from modern biotechnology for the situation of asynchronous authorisation.

• Those guidelines are applicable in the case of Triffid flax.
Risk Assessment of Triffid Flax

- identify the adverse effects on human and animal health (if any) arising from the presence of the Triffid flax in food or animal feed, and
- if any such adverse effect exists, evaluate the potential or probability of occurrence of these effects
Violation of Article 5.1

Members shall ensure that their sanitary or phytosanitary measures are based on an assessment

No known scientific risk assessment was done by the EU for Triffid flax

EU is in violation of Article 5.1
Violation of Article 5.7

The measure is imposed in respect of a situation where “relevant” scientific information is insufficient;
There is sufficient scientific information of Triffid flax used for giving approval in Canada

“seek to obtain the additional information necessary for a more objective assessment of risk”;
No evidence that EU sought to obtain information necessary for a more objective assessment of the risk of Triffid flax

“review the measure accordingly within a reasonable period of time”.
No evidence that EU reviewed or has ever initiated a review of the zero tolerance on Triffid flax within 17 months
Factors other than scientific risk behind the ‘zero tolerance’ policy

• Consumer resistance
• Influential interest groups
• Disagreements in legitimacy and agenda setting within the EU
• Low level of trust toward available scientific information on food safety
• Pure economic protectionism
• Inaccurate information
CONCLUSION

- Operationalization of ‘zero tolerance’ policy of the EU incurred negative economic impact to both Canada and the EU.

- The EU has abandoned the science based regulation of trade despite its acceptance of SPS obligations.

- However, the EU can still claim its zero tolerance policy on Triffid flax is based on ‘sound science’ due to the inconclusive nature of the application of science in SPS Agreement.

- A Dispute Panel would have to be requested to resolve the issue.
REFERENCES


Dayananda, B. 2011. The European Union Policy of Zero Tolerance: Insights from the Discovery of CDC Triffid. MSc Thesis, Department of Bioresource Policy, Business and Economics, University of Saskatchewan, Saskatoon.


THANK YOU