Using GRAS to Manage Land Use Change Risks in the Supply Base

December 5, 2017 - Las Vegas
Viterra is a leading marketer and handler of grains, oilseeds and pulses.

Commodities handled include:

- Spring Wheat
- Winter Wheat
- Durum Wheat
- Canola
- Peas
- Lentils
- Soybeans
- Flax
- Corn
- Oats
- Rye
- Barley
- Canary Seed
- Mustard
- Dry Beans
• 67 primary elevators located across western Canada and the northern United States
• 5 port terminals accessing Pacific and Atlantic shipping options
• 9 processing facilities
CURRENT AUDIT PROCESS

- Square root calculation of producer pool used to determine number of producer audits.
- Risk analysis of producers completed by certification provider and individual producers selected.
- Onsite audits of producer farms scheduled with certification provider.
CHALLENGES

Distance

• Significant travel costs to audit program. 4000 kilometers (2500 miles) between potential audit locations.

Scheduling

• Producers, Viterra sales staff, certification provider, and auditors all have to agree on a schedule. Factors such as harvest timing, prior audit commitments, and general availability need to be considered.

Land Use Change

• No unapproved land use change after January 1st, 2008
Estimated that less than 30% of our current producers have owned or rented all land since January 1st 2008.

Increasing difficulty for producers to complete self declaration form.

Risk of audit non-conformances due to unapproved LUC increasing.
Decision made to utilize the GRAS tool to assist with producer selection.

GRAS analysis required to reduce audit risk.
Quarter 1: Within the analyzed quarter 21 ha of deforestation was detected after January 2008

<table>
<thead>
<tr>
<th>Quarter 0001</th>
<th>Summary</th>
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<tbody>
<tr>
<td></td>
<td>Producer: Peter Smith</td>
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<tr>
<td></td>
<td>Address: Near 8 HWY (6 km E), Walpole, SK</td>
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<td>LSD of the Quarter: 3-23-12-32 W1, 4-23-12-32 W1, 5-23-12-32 W1, 6-23-12-32 W1</td>
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<tr>
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<td>Central Coordinates: 50.022067, -101.764859</td>
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<td></td>
<td>Total Area: 68 ha</td>
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<td>Cropland Area in 2007*: 47 ha</td>
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<td></td>
<td>Deforestation: 21 ha</td>
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<td>Grassland Conversion: 0 ha</td>
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*AAFC land cover map based on SPOT images between 2006 and 2008
Quarter 1: 47 ha of the example area belongs to the Land Cover class of annual cropland in 2007*

*AAFC land cover map based on SPOT images between 2006 and 2008
Quarter 1: Sentinel-2 and SPOT images were analysed to identify Land Use Change from forest or grassland to cropland.

- Within the red area, the land was converted from forest to cropland after January 2008.
GRAS provides the results of the analysis within two Google Earth KML files and an overview table, in addition to the reports.

Overview

- KML 1: Map of risk and no risk quarters
- KML 2: Map of identified deforestation and grassland conversion
- Searchable table of results
Most producers quickly cleared of LUC risk using the GRAS assessment.

Producers with LUC detected and confirmed are not included in our producer pool.