Beef & Trees
Engaging Beef Producers in Reducing GHG

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About the project

- **Duration**: April’11 – March’15
- **Sponsor**: AGGP/AAFC
- **Goal**: reduce GHGs
- **Partners**: UARCD & RDI
- **Objectives**: Model shelterbelts, more shelterbelts
Social marketing

- Engaging beef producers to maintain, expand, and plant more shelterbelts (SB)

Outline

- SB model
- GHG connections
- Beef producers
- Annual campaign
- Findings
- Next steps
Shelterbelt
- Plant, maintain 2500 trees
- Monitoring soil
- Tracking costs & benefits
- GHG impacts
**SB model**

**GHG impacts (potential)**

- Reduced equipment use
- Reduced fertilizer use
- Improve carbon sequestration
- Improved nutrient distribution
- Lower methane emissions: digestion, respiration
- Reduced evaporation
Shelterbelts

- How many and where are SBs
- Understand BP attitudes towards SBs
- **How**: social marketing approach
  - A systematic application of marketing concepts and techniques, along with behavioural change theory over time, while aiming to achieve specific goals for a social good
  - E.g. residential water conservation
  - E.g. Health Canada vs. smoking and obesity

Sources: Hawke, 1999; Christmas, S. et al, 2009
Shelterbelt challenges

- **Maintain/keep**
  - More benefits than costs
  - Some BP removing SBs

- **Expand existing**
  - Future benefits with ongoing costs
  - Design, plant, nourish

- **New**
  - Future benefits with ongoing costs
  - Design, plant, nourish
Social marketing approach

5 stage model

- **Awareness**
- **Assessment**
- **Acceptance**
- **Action**
- **Appraisal**

Source: Ashton. 1979
Awareness
- Have SBs?
  - Multi-purposes of SBs?
  - Keep SBs?
  - How maintain SBs?
  - Plant more SBs?
  - Benefits vs costs?

Assessment
- Knowledge of SBs
- GHG benefits
- Benefits – now, later
- Costs – now, ongoing
- # of trees, planting
- Barriers, opportunities
- Negotiations
Social marketing approach

Acceptance
- Yes, NO, Maybe
- Yes – take action
- No – for now, forever
- Maybe – help decide

Action
- Maintain, expand, new
- Investment plan
- Funding, trees
- Learn from others

Appraisal
- Measure success, yearly, over time
- Continue, adjustments
- Share know-how (champion)
Social marketing approach

Champaign elements

- Baseline survey
- SB workshops & info
- Videos and virtual tours
- Website
- Communications
  - BP events & workshops
  - Factsheets
  - Articles, newsletters
  - Conferences
Beef producers

What do we know (n=532 of 8000)

- 87% have SBs
- 13% no SBs, rent land
- 99% keep SBs
- 50% expand, improve
- 90%+ multi-use of SBs
Beef producers

Strong perception of multiple uses of SBs (n = 201)

<table>
<thead>
<tr>
<th>Role of SB</th>
<th>Agree (%)</th>
<th>Neutral (%)</th>
<th>Disagree (%)</th>
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<tbody>
<tr>
<td>Livestock protection</td>
<td>95</td>
<td>2.5</td>
<td>2.5</td>
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<tr>
<td>Wildlife habitat</td>
<td>94</td>
<td>4.5</td>
<td>1.5</td>
</tr>
<tr>
<td>Drifting snow</td>
<td>94</td>
<td>2.5</td>
<td>3.5</td>
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<tr>
<td>Soil erosion</td>
<td>90</td>
<td>6</td>
<td>4</td>
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<td>Animals vs. crops</td>
<td>32</td>
<td>35</td>
<td>33</td>
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<tr>
<td>Soil nutrients</td>
<td>20</td>
<td>32</td>
<td>48</td>
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<tr>
<td>Trouble to maintain</td>
<td>11</td>
<td>18</td>
<td>71</td>
</tr>
</tbody>
</table>
Beef producers

What do we know \((n=532)\)

- 3 groups of BP
  - <100 head, <300 head, 300+ head
- Fiercely independent
  - Not grain producer, annual operation
  - Produce own feed
  - Committed to a breed
    (eg., Angus)
Factors for reconsideration of SBs

- Scientific studies: 3
- More information: 8
- Field visit: 4
- Workshop: 11
- See neighbours use them: 8
- Help with labour: 4
- Government funding: 10
- Other: 11

Number of beef producers reporting

- Percentage

Beef producers
Demonstration and Investigation into Livestock Systems Adoption

About Shelterbelts
- Design of a Shelterbelt
- Roles of a Shelterbelt
- Shelterbelt Maintenance

Virtual Shelterbelt Tour
Use the +/- buttons to get a closer look. Hold down the left mouse button while dragging up, down, left, or right to navigate around the map.

Picture Gallery
Shelterbelts prevent snow accumulation on roads and driveways or in farmlands.

http://prairieshelterbelts.ca/
Findings & implications

- Who are BPs?
- Location, location, location
- Subgroups of BPs
  - Herd size
  - Land owner
  - Role in supply chain
- BP knowledge high of SBs

- Keep
  - Stop removal, change from cost to benefits
- Maintain
  - Ag-forestry, Clear costs
- Expand
  - Ag-forestry, clear cost for longer term benefits
- New
  - Ag-forestry, clear cost for longer term benefits
References


Thank you