

# Canadian Field Print Initiative

CRSC

November 23<sup>rd</sup>, 2017



## Purpose For Today

1. Brief History
2. Summary of Accomplishments
3. Statement of Opportunities
4. Plans For the Future

# 1: Brief History & Context



## What is the CFPI?

- Funding from Agriculture and Agri-Food Canada, industry funding from six partners
- Funding for project runs until April 2018
- Formal Title:  
*Aligning Canadian Sustainable Agriculture Metrics to the Sustainability Needs of the Global Food Industry*
- Pulse Canada: Project Manager
- Secretariat: Serecon

# Participating Organizations



CANADIAN FERTILIZER INSTITUTE  
INSTITUT CANADIEN DES ENGRAIS

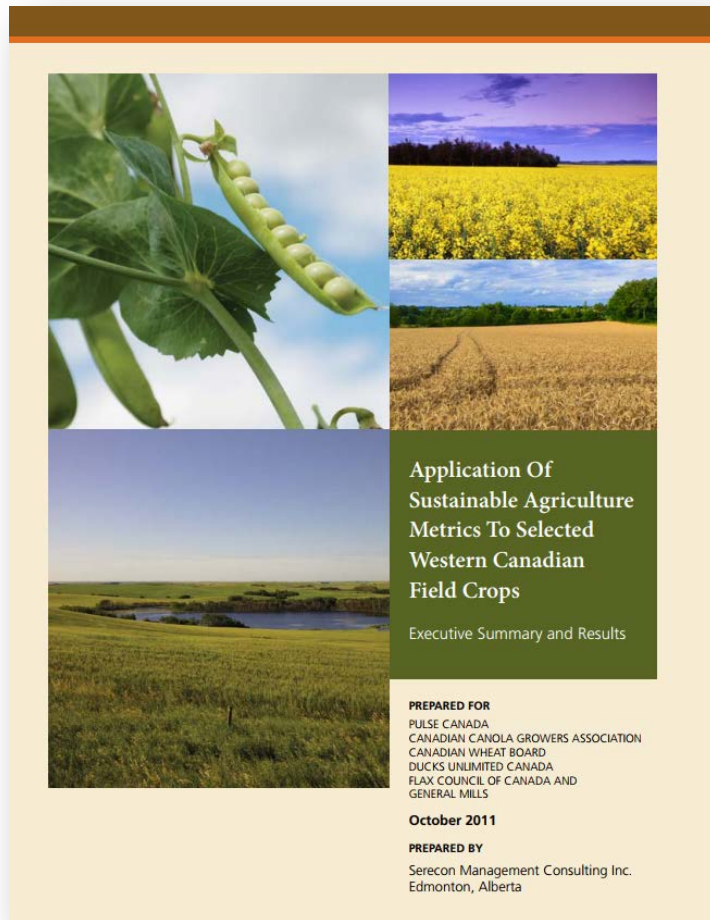


## 2: Accomplishments



## What does the CFPI do?

- Develops tools/methodologies to measure sustainability
- Provides outcomes-based evidence of sustainability performance
- Canadian methodologies and datasets
- These metrics are:
  - market-driven
  - science-based
  - outcomes-focused
  - non-proprietary
  - collaborative
  - simple





## Four metrics:

- Land Use Efficiency
- Energy Use
- Climate Impact
- Soil Erosion Risk

	Alberta	Sask	Manitoba	Ontario
Barley	✓	✓	✓	
Canola	✓	✓	✓	
Corn				✓
Durum Wheat	✓	✓		
Flax	✓	✓	✓	
Lentils	✓	✓		
Oats	✓	✓	✓	
Peas	✓	✓	✓	
Soybeans			✓	✓
Spring Wheat	✓	✓	✓	
Winter Wheat	✓	✓	✓	✓

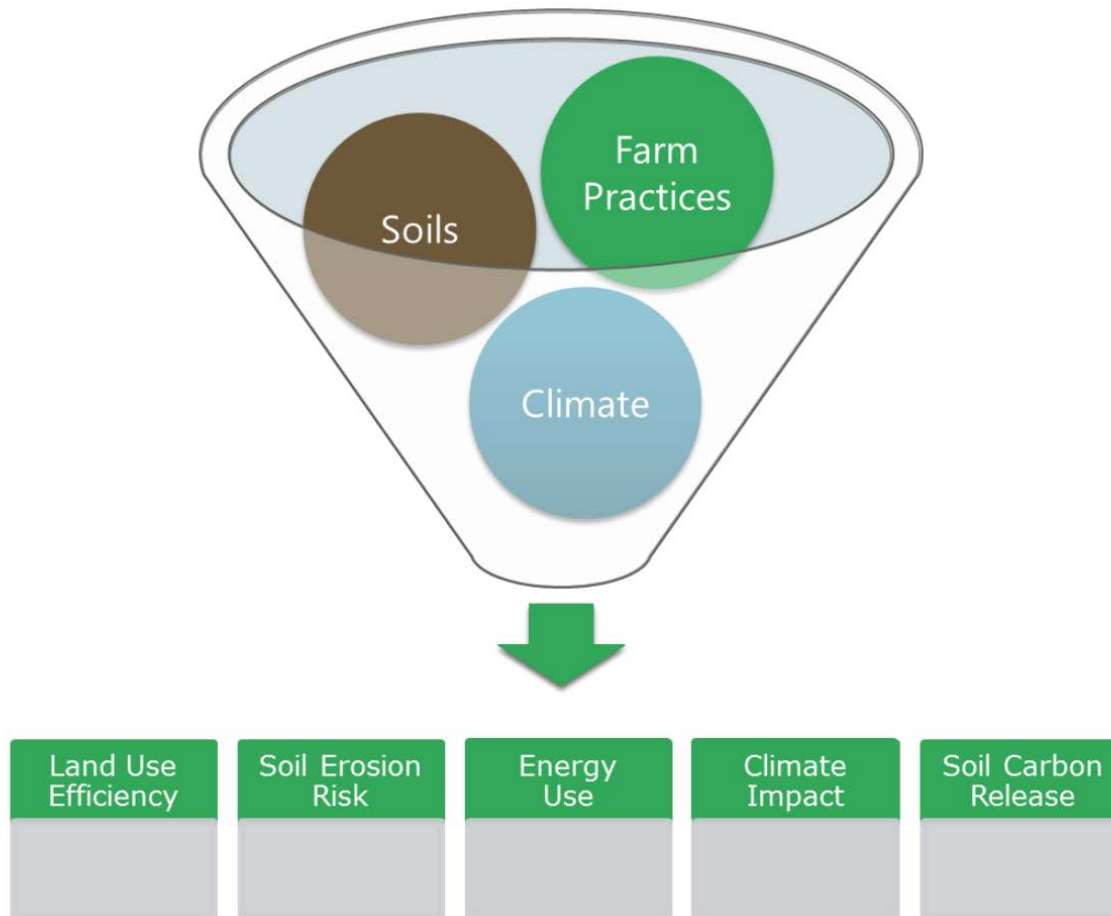
## Development of additional indicators

1. Based on market demand
2. Continuing collaboration with Field to Market in the US
3. Biodiversity & Water Quality likely next indicators (working on the science)
4. Water Quantity also of market interest, but given our crops not likely

## The Sustainability Calculator?

- A **farm level** tool
- Starting point to assess the **environmental** and **economic** impacts of change
- Allows for **assessment of impacts of management changes** against baseline

## The Calculator Elements



## Canadian Field Print Initiative

### Confidential Report for Farm 99, Alberta Field 1 (NE-26-46-21-W4), 2013 Canola

report generated May 19, 2015

#### Summary of Field Data

The data for this report was submitted by CropConsult on behalf of Farm 99 in furtherance of the objectives of the Canadian Field Print Initiative and to obtain information on the environmental sustainability of field crop production by Farm 99. The modelled outcomes in this report are only as accurate as the data received -- the information below summarizes the data inputs received specifically for the canola crop grown on Field 1 in the 2013 crop year.

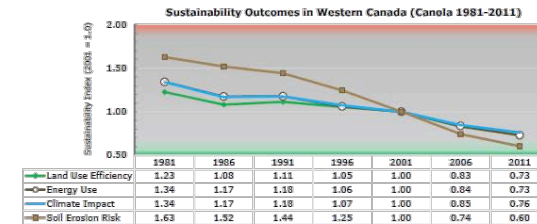
Field 1 is located at NW-26-46-21-W4 and consists of 145 acres of land. It is assumed for modelling purposes that this land is in the black soil zone and has a clay loam texture. The land is assumed to fall into Ecodistrict 727 according to the National Ecological Framework. The field was reported to have been seeded to Canola and yielded 36 bu/ac. Nitrous oxide emissions are based in part on reported fertilizer application of 80 lbs nitrogen per acre and 77 lbs/ac of other fertilizer nutrients, as outlined below.

#### Summary of Input Parameters

Summary of Input Parameters		Fertilizer applied (lb/ac)	
Province	Alberta	Nitrogen	80
Ecozone	Subhumid Prairies	Phosphorus	38 (P2O5)
Ecoregion	156	Potassium	33 (K2O)
Ecodistrict	727	Other	6
Soil zone	Black soil with clay loam texture; hummocky (or irregular) landform with moderate slopes (10 - 15 % gradient)		
Tillage	Currently using a zero till tillage regime, since 2002		

#### Industry Sustainability Outcomes

Growers have always been concerned about stewardship of their land. Production of crops in Canada, and specifically in Western Canada, has become considerably more sustainable over past decades through higher yields, reduced tillage, improved nutrient management, and changes in crop rotations. The Canadian Field Print Initiative has modelled the sustainability outcomes of Canadian field crop production in terms of land use efficiency, energy use, climate impact, and soil erosion risk. The diagram below gives an overview of the progress that has been made on these sustainability outcomes for canola in Western Canada over the past two decades.



The diagram above shows the relative indicator outcomes using the year 2001 as an index of 1. For example, increasing yields have led to significant improvements in Land Use Efficiency to the point where on average a tonne of canola required 27% less land to grow than it did a decade earlier. These estimates were developed using broad large-scale modelling algorithms and data sets including the Census of Agriculture conducted every 5 years by Statistics Canada.

The continuous improvement in sustainability outcomes on most of those macro-indicators lead the Canadian Field Print Initiative to develop this Field Print Calculator, as a way of measuring the specific sustainability outcomes using farm-level data to build estimates. While this section outlined the industry's improvement over time, the remainder of this report outlines the specific modelled results for Farm 99's canola crop on Field 1 in 2013. A full report for eleven crops in the provinces of Alberta, Saskatchewan, Manitoba, and Ontario is available online at [www.fieldprint.ca](http://www.fieldprint.ca).

This soil erosion risk indicator is not significantly contribute to total soil, land use and climate data, as well as Note that, on Western Canada's prairie remaining on the field. For this the highest erosion potential (i.e., the ...)

nd water erosion. As water erosion slope via tillage erosion is deposited sum of water, tillage, and wind



es from water, with an estimated soil its field in comparison to modelled



## Crops & Geography

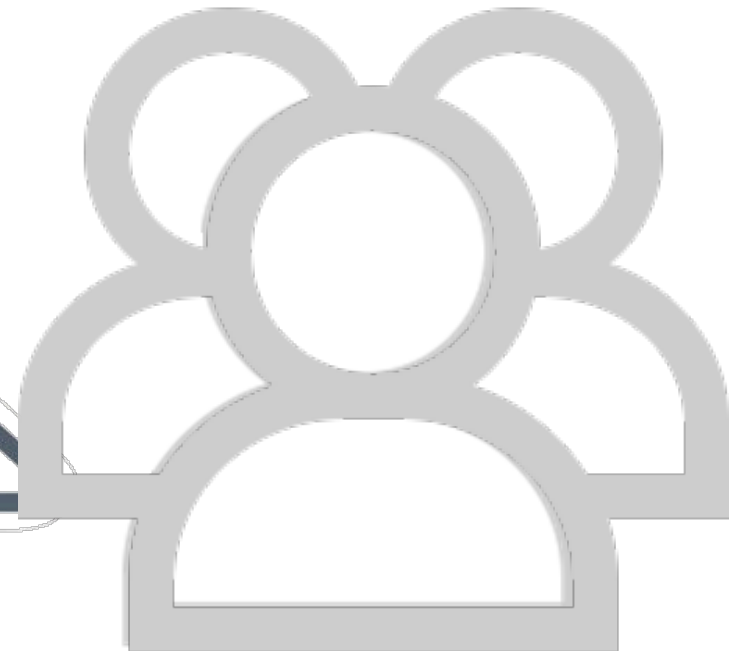
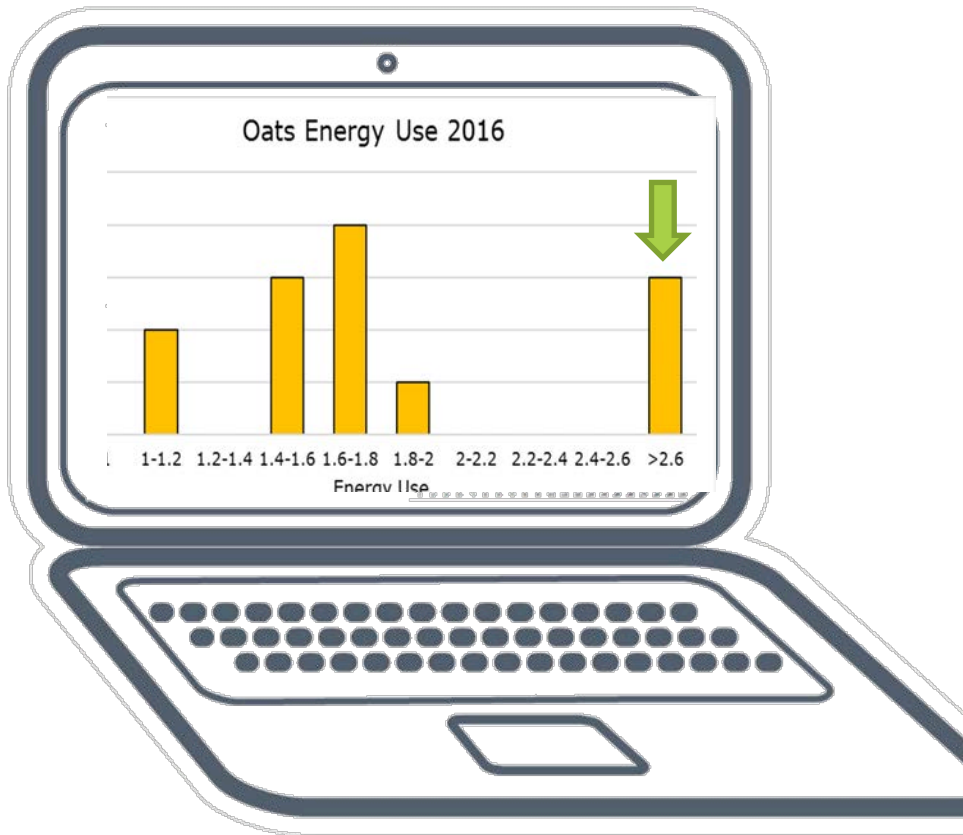
### **Western Canada:**

- Wheat
- Canola
- Oats
- Peas
- Barley
- Soybeans
- Lentils

### **Ontario:**

- Soybeans
- Corn
- Winter Wheat

## Workshops & Partners



**Peer Group Benchmarking**

## Tool Use

- General Mills – leveraging partnerships with 5 different grain companies
- Eastern Canada – 1 food company + 1 grain/crop input company



## Pilot Workshop Locations

- Manitoba:
  - Morris (Gen Mills / Paterson Grain)
  - Elva (Gen Mills / Cargill)
- Saskatchewan:
  - Melfort (Gen Mills / Agritrend)
  - Nipawin (Gen Mills / Cargill)
- Ontario: winter wheat 2017 (soybeans 2016)

	<b>Total</b>	<b>NESK</b>	<b>CMB</b>	<b>SWMB</b>
<b>2016 Oats</b>	22,775	12,335	4,635	5,805
<b>Oat-growing Acres</b>	32,493	15,550	6,879	10,064
<b># Growers</b>	61	33	13	15
<b># Fields</b>	183	101	38	44

**Western Pilot Participation: 32,000 oat acres**

## Fertilizer Use Survey

- Major data gap around fertilizer usage;  
**Fertilizer Management Survey** conducted to collect data required for sustainability modelling
  - 2014-2016 reports available at [fieldprint.ca](http://fieldprint.ca)
  - Included as part of the CRSC Platform

## 2017/18 Deliverables:

- Water quality & biodiversity indicators
- Calculator v 4.0; online portal
- Preparation for transition:  
technical review, documentation,  
governance & funding
  - Raising awareness, gauging interest in  
future regional benchmark development

## 3: Opportunities & Positioning



## Continued Need For Metrics

- A Brand is nothing more than a promise of value;
- We have sold mountains, lakes and rivers to the world for generations – it was our brand;
- Consumers are increasingly asking for a validation of that promise;
- The validation is at different levels of verification depending on the ask.

## Practice-based (qualitative)

- Compliance platform
- Verification – Company specific
- Certification – ISCC



## Outcome-based (quantitative)

- Demonstrate progress over time
- Inputs – Outputs
- Metrics



Field to Market®

Canadian  
Field Print  
Initiative

# Sustainability Market Requirements

## **Make it relevant, accurate & easy**

- The CFPI is really a tool that meets these requirements
- Not denying that the “market” is thinly traded as of right now
- Flexibility is key – both in activities and structure



## CFPI Attributes

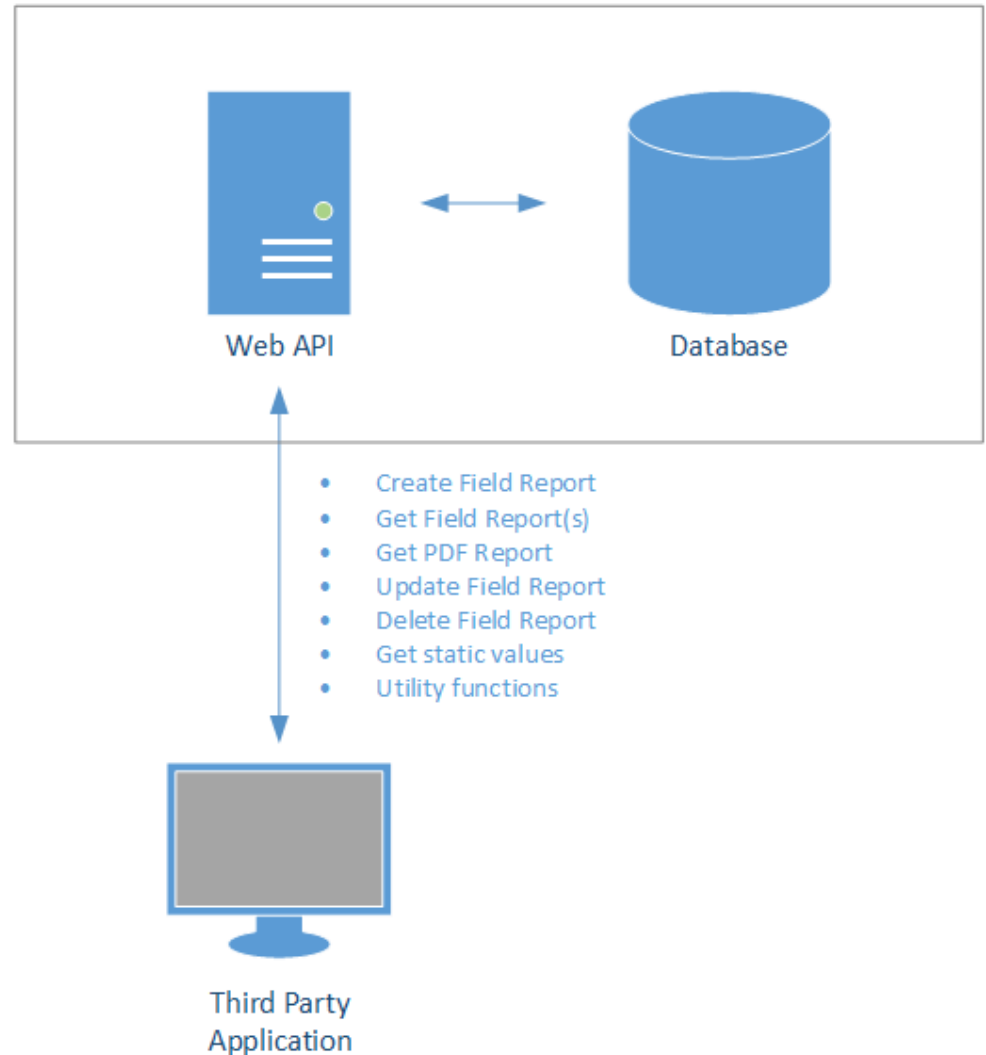
- A set of tools that individual organizations currently find useful;
- Can provide a way to link & leverage other initiatives so that the data is only collected once;
- Consistent with Field To Market meaning that their members see value – one tool two countries

# API Development

– making it easy to use

Activity From:

- 2 Food Companies
- 2 Agronomy Companies
- 2 Software Companies
- 2 Grain Traders



## 4: Plans For the Future



## Future Direction

- The CFPI will focus on its mandate to be a farm-level sustainability tool that provides outcome-based indicators;
- It will focus on the key performance indicators at the farm level that provide a way for farmers to deliver on their sustainability promises in a cost effective way, and without a significant time commitment;
- The CFPI will become a legal entity with its own governance structure;

## Link to FTM

- A formal link to Field to Market (FTM) will be created, with the current exploratory MOU as its base, but moving towards a formalized structure with roles, responsibilities and deliverables clearly outlined;
- Activity based indicators, while not the focus, may be incorporated should they be required;
- The CFPI will remain separate and distinct from the CRSC but will always look at how best to link with and leverage both the CRSC and other entities that would advance CFPI objectives.

## Pursuit of Financial Stability

- Business case currently being developed
- Funding will be sought from a number of sources:
  - future CFPI membership;
  - AAFC programs/public funds; and
  - project-based funding options.

## Pursuit of Financial Stability – Super Clusters

- Submitted a Phase II project submission to the Protein Industries Canada Supercluster under the Global Advantage theme.
- Submitted details for Phase I and Phase II of the Smart Agri-Food Supercluster process (lead by Agrium in Alberta), under the themes of Technology Leadership, Partnerships for Scale, and Global Advantage.

# Questions?

