

Stewardship Index for Speciality Crops - Metric Calculator

Website: http://www.stewardshipindex.org/metric_calculator.php

Factsheet

General description of the tool

Category	Outcome-based
Objective	"to advance both optimal production and strong environmental protection by offering a suite of science-driven metrics empowering producers to measure on-farm practices (i.e. water use, nitrogen use, etc.) accurately and consistently. Metric data give consumers, food buyers, and producers a common language for discussing the impact of farming practices – and the meaningful stewardship activities of U.S. farmers"
Geographical applicability	USA
Functionalities	Provide a footprint value/metrics
Target audience	Farmers, food supply chain managers and general public
Developers	SISC Coordinating Council organizations - latest update: 2013
Format	Excel sheet to download
Cost (tool and data)	Free
Past or current users	unknown

Commodities covered

Dry pea, potato

BMPs covered

None

Indicators covered

Soil carbon

Energy use

Water use

Nutrient use

Data inputs

Data requirements	Primary data required	Default values
Environmental conditions	Farm location, climatic region, farmed area	No
Crop management	- Management areas: number of crops in rotation, acres planted, date of last harvest, fertilisation (date range, product, amount applied per acre, %n, %P2O5, %K2O), nitrate in irrigation water, soil test results (dates, sample area, TOC, soil series, soil texture, recommended P application)	- Fertilization: embedded energy, lbs N/acre, lbs P/acre - Nitrogen fixed from cover crop or previous legume crop: average fixed lbs N/acre, percent N in plant tissue, above ground biomass, below ground biomass - Soil test: SOM potential
Carbon sequestration/storage	No	No
Livestock	No	No
Energy use	Electricity, diesel, gasoline and other fuels usage	No
Primary processing	No	No
Water	Irrigation, water use	- Irrigation: total N in irrigation water
Transport	No	No
Others	No	No

Scope Farm level Supply chain

Ease of use for the data collect Relatively easy, but may require specific documentation, fairly quick to fill - Qualitative data entries can be easily completed by the user. However, unless the producer has done a soil assessment, data on soil organic matter, moisture and pH can be hardly found. Quantitative data related to fertilizers and pesticides will require the user to search through its documents, but these documents should be accessible. Data on energy use (electricity and fuel) are usually easily accessible to producers. However, data on N in irrigation is much more difficult to obtain directly from producers.

Modelling methods

Consistency of the model with the goal and scope of the tool Consistent - model allows the reporting of specific environmental stewardship metrics

<p>Transparency and quality of documentation</p>	<p>Guidance document: Yes - Guidance document available online http://www.stewardshipindex.org/docs/Guide-SISC-Calculator_2013-Oct.pdf Methodology document: Guidance for some metrics (Applied water use efficiency, nitrogen use, phosphorous use and soil organic matter) are available online: http://www.stewardshipindex.org/working_metrics.php</p>
<p>Conformity of the methodology with the current state-of-the-art agronomic and environment sciences</p>	<p>Consistent - calculations are straightforward as the tool does not perform major manipulations of data</p>
<p>Methodology</p>	<p>Simple calculations to convert information gathered into the defined units of the different metrics reported</p>
<p>Dataset sources used for modelling</p>	<p>Collected from various empirical works</p>

Outputs / Results

- Results** Detailed summary of results in tables
- Analysis** No analysis available

Limits of the tool/model

Results are not put in perspective (i.e. comparable to averages) and cannot compare with alternative scenarios
Simple metric dashboard as an output (no conversion into potential impacts)