This step-by-step guide shows how easy it is to collect data about the amount of product left in the field.

While the data can be entered into any system, using the SISC Food Loss Metric tool allows growers to access a summary dashboard, which automatically extrapolates the data and calculates the possible economic opportunity. This is low-cost and doesn’t take much time (see Box 1).
Step 1: PREPARE FOR MEASUREMENT

• Identify 1–2 people to undertake measurement

• Select field for sampling

• Review short 5-minute video tutorial on Finding Opportunities in the Field or the longer, in-depth SISC Food Loss Metric tool metric tutorial

• Download SISC Food Loss Metric tool

• Gather equipment

EQUIPMENT TO USE

1. Measuring tape

2. Flags (2)

3. Harvest containers

4. Harvesting tools (e.g., knife, gloves)

5. Scale

6. Clipboard / electronic device for notes and data
Step 2: HARVEST SAMPLES

- Identify three rows representative of the field (Box 2)
- Go into the field
- For each row:
  - Measure row length from which to pull off all remaining product.
  - Mark beginning and end of the row with a flag.
  - Harvest all the product left on the plant, no matter the reason or condition. Put samples from each row in separate container.

BOX 1. TIME TO MEASURE PRODUCT LEFT IN-FIELD

Sampling and data collection in the field took ~1 hour for two people on average.

This includes:

- 20 minutes to gather the equipment
- 15 - 20 minutes per row to harvest samples

Sorting and weighing by the three categories, and analyzing the data took 1 – 1 ½ hour
**TOMATO EXAMPLE**

Measuring and marking rows

Harvesting

Product Harvested

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**LETTUCE EXAMPLE**

Measuring and marking rows

Harvesting

Product Harvested
BOX 2. DETERMINING SAMPLE AREA

The Food Loss Metric tool recommends a sample area of 0.1% of the field area. If the strength of the estimate is important to you, your sample may even exceed this recommendation. This is your measurement, for your operation. Collecting samples should not become a burden. A number of growers simply sample three rows that are each 50 feet long, but if you decide that three sample rows of 10 feet each is sufficient, go with that.

The following shows how sample row length is calculated in SISC Food Loss Metric tool (to represent 0.1% of a field).

**Calculating sample row length**

Field or Block size in acres

x 43,560 Sq.ft/acre

x 0.1% sample

= total field sample in SqFt

Total field sample SqFt

/ row spacing in Ft

/ 3 rows

= sample row length for 3 rows in Ft

**Example**

Field or Block size in acres

40 acres

x 43,560 Sq.ft/acre

x 0.1%

= total field sample in SqFt

1742.4 sq. ft

/ 10 ft row spacing / 3 rows

= sample row length for 3 rows in Ft

58.08 ft
**Step 3: SORT, WEIGH, AND ANALYZE MEASURED SAMPLES**

- Determine sorting criteria and sort samples into three categories: marketable; edible but not marketable, and inedible. The data for each row should be recorded separately.

- Weigh sample of each category from each sample row and record the weight (remember to subtract container weight).

- Find outlet for sampled product (e.g., return to field, give away edible food).

- Estimate the harvest potential across the entire field (using SISC Food Loss Metric tool, or other option).

- Review data to identify opportunities.

Example for Recording Sample Weight by Category (snapshot of the data table in the SISC Food Loss Metric tool)

<table>
<thead>
<tr>
<th>Sample Weights (lbs)</th>
<th>Sample 1</th>
<th>Sample 2</th>
<th>Sample 3</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edible, Not Marketable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inedible Product</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Product in three sorted categories: Marketable; edible but not marketable \(^1\); and inedible.

\(^1\) What is potentially “edible but not marketable” is product that could be eaten (raw or processed) but falls outside of the marketable range for color, size, shape, or blemishes.
Sorting criteria (e.g. marketable size)

Optional: Further sorting by 2 Types of product that are “Not marketable”
Additional Examples of Sorting Fresh Produce into Quality Categories After Harvest

In order from left to right for the images above:

**MARKETABLE**

Meets current buyer specs but growers were unable to harvest because the price did not cover harvest costs.

**EDIBLE BUT NOT MARKETABLE**

Off-size, blemished, misshapen, or miscolored. Nutritious and safe for human consumption.

**INEDIBLE**

Damaged, diseased, or decayed. Not suitable for human consumption.
Marketable versus edible but not marketable (above)

From left to right: Marketable, edible but not marketable, inedible

*Photos courtesy of Dr. Lisa K Johnson, Nikki Cossio & Kai Robertson*