

Cropland Demo Project



How to Use Demo Projects



Each demo project helps
users navigate:

- COMET FarmTM data entry pages
- Help tools and windows with information on the site or the management practices that have been selected.

CROP DEMO DESCRIPTION:

Crop management impacts on greenhouse gas emissions



HEAVY TILLAGE



Breaks up soil structure
and decomposes soil
organic matter into CO₂



SYNTHETIC FERTILIZER



Large Nitrous Oxide (N₂O)
emissions



WETLAND RICE PRODUCTION



Methane (CH₄) emission
from anaerobic soil
conditions

CROP DEMO DESCRIPTION:

Conservation practices applied

Conservation practices can sequester (store) carbon as organic matter in soils and reduce these and other cropland emissions, improving the overall greenhouse gas balance of farming practices.



REDUCED
TILLAGE



Sequesters carbon and maintains soil structure




IMPROVED NITROGEN
FERTILIZER MANAGEMENT



Using enhanced efficiency fertilizers to reduce nitrous oxide emissions

New Project

Croplands Demo Project

Select a demo project to create: 

- Cropland, Pasture, Range, Orchards/Vineyard
- Animal Agriculture
- Animal Agriculture - Beef
- Agroforestry
- Forestry

Cancel

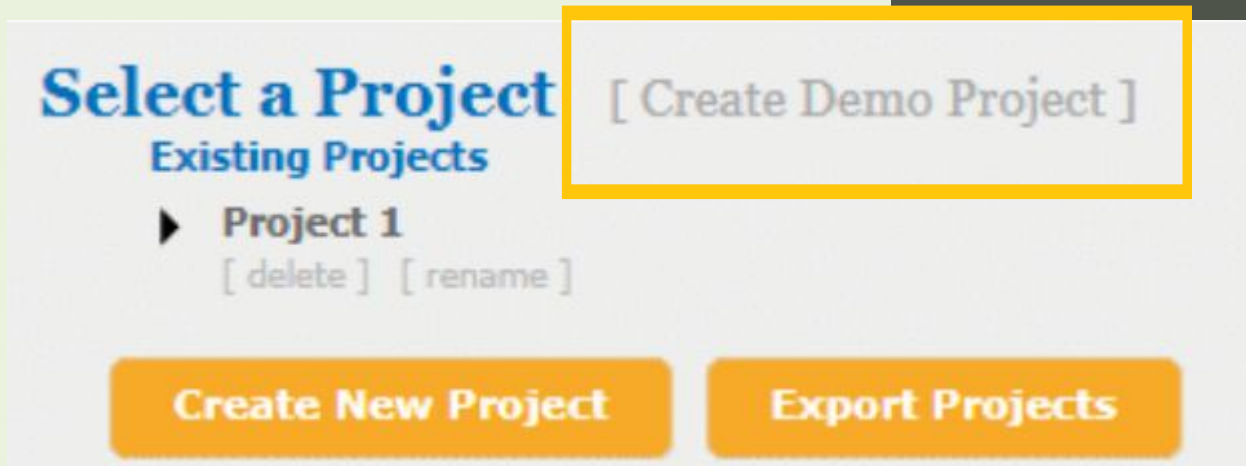
Create

Cropland Demo Project

The practices described in this demonstration were selected to represent average management practices from the Des Moines lobe region in northwest Iowa. The field shown is on the Allee Demonstration Farm, operated by Iowa State University.

To Select Cropland Demo Project

On the Tool page,
select "Create
Demo Project"



Select "Cropland, Pasture,
Range, Orchards/Vineyards"
and "Create"



Defining Parcels:

Navigation
Bars

Parcel
Help

The screenshot displays the COMET Farm web application interface. At the top, the header includes the COMET Farm logo, USDA United States Department of Agriculture Natural Resources Conservation Service, Colorado State University, and the text "Whole Farm and Ranch Carbon and Greenhouse Gas Accounting System." Navigation links for HOME, TOOL, INFO, and HELP are present, along with a user welcome message for Haley Nagle and social media icons for Facebook and Twitter.

The main navigation bar shows three steps: Step 1 Activities, Step 2 Field Management (selected), and Step 3 Report. Below this, a sub-navigation bar includes Parcel Locations, Historic Management (Pre-2000), Baseline Management (2000-2018), and Scenario Management (Scenarios for 10 year period).

The left sidebar contains a vertical list of navigation bars, including "I am done defining parcels", "Find Location", "Add Parcel by Point", "Add Parcel by Polygon", "Add Parcel by Circle", "Modify Parcel", "Drag Parcel", "Delete Parcel", "Delete All Parcels", "ESRI Shape File Upload", "View Soil by Click", "Export Soil Information", and "How do I?". The "How do I?" button is highlighted with a yellow box.

The main map area shows an aerial view of a field with a large rectangular parcel highlighted in blue and labeled "F1 (60 acres)". A yellow double-line border surrounds this parcel. A yellow arrow points from the text "Parcel" to the highlighted area. The map also features a "200th Ave" label and a "Soils" menu with "Hybrid" and "Aerial" options.

At the bottom right, there is a "Help" button with a question mark icon.

Parcel

Defining Parcels:

The screenshot displays the COMET Farm web application interface. At the top, the header includes the COMET Farm logo, USDA and Colorado State University logos, and the text "Whole Farm and Ranch Carbon and Greenhouse Gas Accounting System." Navigation links for "HOME", "TOOL", "INFO", and "HELP" are present. A user greeting "Welcome Haley Nagle" and project information "Current Project: Croplands Demo Project" are shown on the right, along with social media icons for Facebook and Twitter.

The main interface is divided into three steps: "Step 1 Activities", "Step 2 Field Management" (which is the active step), and "Step 3 Report". Below the steps, there are four tabs: "Parcel Locations", "Historic Management (Pre-2000)", "Baseline Management (2000-2018)", and "Scenario Management (Scenarios for 10 year period)".

On the left side, a vertical toolbar lists various "Map Functions": "I am done defining parcels", "Find Location", "Add Parcel by Point", "Add Parcel by Polygon", "Add Parcel by Circle", "Modify Parcel", "Drag Parcel", "Delete Parcel", "Delete All Parcels", "ESRI Shape File Upload", "View Soil by Click", "Export Soil Information", and "How do I?".

The central map area shows an aerial view of a field with a large parcel labeled "F1 (60 acres)" highlighted in light blue. A yellow box highlights the "Background View" controls at the top right of the map, which include "Soils", "Hybrid", and "Aerial" options. A yellow arrow points from the text "Background View" to this box.

At the bottom right, a yellow arrow points from the text "Additional Help Tools" to a small "i" icon in the bottom right corner of the map area. A "Help" button is also visible in the bottom right corner of the application.

Map Functions

Background View

Additional Help Tools

Demo Parcel:

The Parcel location for the demo project is located at the Allee Farm in Iowa. The parcel that has been selected is a 60-acre field.

Soil information can be viewed or downloaded

To continue to Historic Management click on the “I am done defining parcels” highlighted in orange.

The screenshot displays the COMET Farm web application interface. At the top, the header includes the COMET Farm logo, logos for the USDA United States Department of Agriculture Natural Resources Conservation Service and Colorado State University, and the text "Whole Farm and Ranch Carbon and Greenhouse Gas Accounting System." Navigation links for "HOME", "TOOL", "INFO", and "HELP" are present, along with a user greeting "Welcome Haley Nagle" and options to "sign out" or "change password".

The main interface is divided into three steps: "Step 1 Activities", "Step 2 Field Management", and "Step 3 Report". Below this, there are four management tabs: "Parcel Locations", "Historic Management", "Baseline Management", and "Scenario Management".

On the left side, a vertical menu lists various actions: "I am done defining parcels" (highlighted in orange), "Find Location", "Add Parcel by Point", "Add Parcel by Polygon", "Add Parcel by Circle", "Modify Parcel", "Drag Parcel", "Delete Parcel", "Delete All Parcels", "ESRI Shape File Upload", "View Soil by Click", "Export Soil Information", and "How do I?".

The central map shows a satellite view of a farm with several parcels outlined in orange. One parcel, labeled "F1 (60 acres)", is highlighted with a thick yellow border. A yellow arrow points from the text "Generates soil map for location" to the "Soils" button in the top right corner of the map area. Another yellow arrow points from the text "Parcel" to the highlighted parcel. A third yellow arrow points from the text "Soil information can be viewed or downloaded" to the "View Soil by Click" button in the left menu.

At the bottom right, there is a "Help" button.

Historic Management

Historic Management for this demonstration was defined based on regional management practices. The blue question marks found next to 1980-2000 management/tillage will provide explanation to help users select the best fitting options for their project.

COMET Farm | USDA United States Department of Agriculture Natural Resources Conservation Service | Colorado State University | Whole Farm and Ranch Carbon and Greenhouse Gas Accounting System. | HOME TOOL INFO HELP

Step 1 Activities | Step 2 **Field Management** | Step 3 Report

Parcel Locations → **Historic Management** (Pre-2000) → Baseline Management (2000-2018) → Scenario Management (Scenarios for 10 year period)

Select a parcel: F1 ▼

For parcel F1 (selected at left) what was its historic management?

Pre-1980 Management: Upland Non-Irrigated (Pre 1980s) ▼

Was this parcel enrolled in Conservation Reserve Program(CRP) at anytime before 2000? No Yes

1980-2000 Management: Non-Irrigated: Annual Crops in Rotation ▼ ?

1980-2000 Tillage: Intensive Tillage ▼ ?

<< Back | Copy | Next >> | Set Baseline Period

Data complete | Data incomplete | Selected

Parcel Selector

Defining Historic Management

Historic Management

To minimize data entry, users can copy historic management data from one parcel to another. Users can also modify the baseline period if necessary for specific projects.

Click "Next" To continue to Baseline (Business as Usual) Management.

COMET Farm | **USDA** United States Department of Agriculture Natural Resources Conservation Service | **Colorado State University** | Whole Farm and Ranch Carbon and Greenhouse Gas Accounting System. | [HOME](#) [TOOL](#) [INFO](#) [HELP](#)

Step 1 Activities | **Step 2 Field Management** | Step 3 Report

Parcel Locations → **Historic Management** (Pre-2000) → Baseline Management (2000-2018) → Scenario Management (Scenarios for 10 year period)

Select a parcel: **F1** ▼

F1 (60 acres)

Pre-1980 Management: Upland Non-Irrigated (Pre 1980s) ▼

Was this parcel enrolled in Conservation Reserve Program (CRP) at anytime before 2000? No Yes

1980-2000 Management: Non-Irrigated: Annual Crops in Rotation ▼ ?

1980-2000 Tillage: Intensive Tillage ▼ ?

<< Back | **Copy** | **Next >>** | **Set Baseline Period**

Copy Historic Management to Other Parcels

Continue to Baseline Management

Modify Baseline Period (if needed)

Current Management

A window will appear when the Baseline Management page opens.

This window describes the "Business as Usual" plan for the Cropland Demo Farm.

After reading the scenario, click "Ok"

The screenshot shows the 'Baseline Management' page for 'Parcel F1 (60 acres)'. The interface includes a navigation bar with 'Step 1 Activities', 'Step 2 Field Management', and 'Step 3 Report'. Below the navigation bar, there are tabs for 'Parcel Locations', 'Historic Management (Pre-2000)', 'Baseline Management (2000-2018)', and 'Scenario Management (Scenarios for 10 year period)'. A timeline at the top right shows various agricultural activities: Tillage, Implements, Manure/Compost Application, Liming, Crop and Planting Date, Fertilizer Application, Irrigation, and Burning. A question asks: 'For Parcel F1 in 2000 what crop did you plant, when did you plant, and when did you harvest?'. Below this, there is a dropdown menu for 'What type of crop?'. A dialog box titled 'Demo - Current Management' is overlaid on the screen. It features a corn icon and the text: 'Croplands Demo. For the purposes of this demonstration we assumed the parcel was in a grain corn-soybean rotation. Corn was intensively tilled with 160 lbs of nitrogen from anhydrous ammonia at the time of planting in the 1st week of May. No manure or compost was applied, there was no irrigation, liming, or burning. Soybean was reduce-tilled with no fertilizer, irrigation, organic matter/compost, liming or burning.' An 'Ok' button is highlighted with a yellow box and a yellow arrow. At the bottom of the dialog box, it says 'No data to display'. The background interface shows a list of years from 2000 to 2018 with corresponding crop types (e.g., 2000 Corn, 2001 Soybean, etc.). Navigation buttons at the bottom include '<< Back', 'Next >>', and 'Skip Ahead >>'.

Current Management


The selected management practices for this site are automatically filled in for the Cropland Demo Project.

Crop years: Management is defined for years 2000 through the current year (unless the user modifies baseline period)

Step 1 Activities Step 2 Field Management Step 3 Report

Parcel Locations → Historic Management (Pre-2000) → **Baseline Management (2000-2018)** → Scenario Management (Scenarios for 10 year period)

Select a parcel: F1



Data complete Data incomplete Selected

Parcel Management Summary [Delete Selected Crop]

Drag and Drop Crop Rotation

- 2000 Corn
- 2001 Soybean
- 2002 Corn
- 2003 Soybean
- 2004 Corn
- 2005 Soybean
- 2006 Corn
- 2007 Soybean
- 2008 Corn
- 2009 Soybean
- 2010 Corn
- 2011 Soybean
- 2012 Corn
- 2013 Soybean
- 2014 Corn
- 2015 Soybean
- 2016 Corn
- 2017 Soybean
- 2018 Corn

Tillage, Implements, Manure/Compost & Planting Application Liming

Crop and Planting Date Fertilizer Application Irrigation Burning

For Parcel F1 in 2000 what crop did you plant, when did you plant, and when did you harvest?

What type of crop?:
 Annual Crop/Hay/Grass Seasonal Cover Crop Orchard/Vineyard Crop

Crop: Corn
Planting Date: 05/07/2000

Harvest Table Add New Harvest

Harvest Date	Grain / Fruit / Seed / Root / Tuber?	Yield (bu/ac)	Straw / Stover / Hay / Residue Removal (%)	Delete
10/31/2000	<input checked="" type="checkbox"/>	160	0	X

Grazing Table Add New Grazing Period

Start Dates	End Dates	Rest Period (days)	Daily Utilization %	Delete
No data to display				

Move to Next Management Activity

<< Back **Next >>** Skip Ahead >>

Management Activity Panel

Default values are added to the harvest table, but can be modified

Current Management

The Drag and Drop Crop Rotation feature allows users to create a crop rotation for the baseline period.

The crop rotation for the Croplands Demo Project is pre-populated for users, so no changes will need to be made.

The screenshot shows the 'Create Crop Template' interface. On the left, a 'Parcel Management Summary' section lists years from 2000 to 2018 with crop types (Corn, Soybean). A yellow box highlights the 'Drag and Drop Crop Rotation' button. The main area is a grid of crop icons including Alfalfa, Barley (Spring/Fall), Clover, Corn Silage, Corn, Cotton, Dry Field Beans, Fallow, Grass, Grass-Legume, Millet, Oats (Spring/Fall), Peanut, Potatoes, Rye (Winter), Sorghum, Sorghum Silage, Soybean, Sugar Beets, Sunflower, Switchgrass, Wheat (Spring/Winter). On the right, a 'Crop Rotation for F1' table is shown with columns for Crop, Irri?, Tillage, and a status column. The table contains entries for Corn (Intensive) and Soybean (Reduced). A yellow arrow points to the 'Irri?' and 'Tillage' columns. Below the table are 'Cancel' and 'Create Rotation' buttons. At the bottom, navigation buttons include '<< Back', 'Next >>', and 'Skip Ahead >>'. A yellow arrow points to the 'Next >>' button with the text 'Move to Next Management Activity'.

Crop	Irri?	Tillage	
Corn	<input checked="" type="checkbox"/>	Intensive	X
Soybean	<input checked="" type="checkbox"/>	Reduced	X

Current Management


The tillage events for the Croplands Demo Project is pre-populated for users, so no changes will need to be made.

Step 1 Activities Step 2 Field Management Step 3 Report

Parcel Locations → Historic Management (Pre-2000) → **Baseline Management** (2000-2018) → Scenario Management (Scenarios for 10 year period)

Tillage, Implements, & Planting Manure/Compost Application Liming
Crop and Planting Date Fertilizer Application Irrigation Burning

Select a parcel: F1 ▼



Data complete Data incomplete Selected

Parcel Management Summary [Delete Selected Crop]

Drag and Drop Crop Rotation

- 2000 Corn
- 2001 Soybean
- 2002 Corn
- 2003 Soybean
- 2004 Corn
- 2005 Soybean
- 2006 Corn
- 2007 Soybean
- 2008 Corn
- 2009 Soybean
- 2010 Corn
- 2011 Soybean
- 2012 Corn
- 2013 Soybean
- 2014 Corn
- 2015 Soybean
- 2016 Corn
- 2017 Soybean
- 2018 Corn

For Parcel F1 in 2000 what were the tillage practices?

Implement Table ⓘ

+ Add New Tillage Application Practice

Date Applied	Implement Pass	Delete
5/5/2000	Intensive Tillage	X

↑
Date Applied & Implementation pass can be modified by clicking on the cell

Move to Next Management Activity

<< Back Next >> Skip Ahead >>

Current Management

The fertilizer data for the Croplands Demo Project is pre-populated for users, so no changes will need to be added.

Step 1 Activities Step 2 **Field Management** Step 3 Report

Parcel Locations → Historic Management Pre-2000 → **Baseline Management** 2000-2018 → Scenario Management Scenarios for 10 year period

Tillage, Implements, Manure/Compost & Planting Application Fertilizer Application Irrigation Burning Liming

Crop and Planting Date

For Parcel F1 in 2000 what were the fertilizer application practices?

User can add new fertilizer applications

Fertilizer Application Table **NEW!**

Date Applied	Fertilizer Type	Total Fertilizer Applied (lbs Fertilizer/acre)	Total N Applied (lbs N/acre)	EEP	Ammonium % (i)	Delete
05/06/2000	Ammonium Nitrate (34-0-0)	394.12	134	None	24	X

Fertilizer Information can be modified by clicking on the cells

Move to Next Management Activity

<< Back Next >> Skip Ahead >>

Select a parcel: F1

F1 (60 acres)

Data complete Data incomplete Selected

Parcel Management Summary [Delete Selected Crop]

Drag and Drop Crop Rotation

- 2000 Corn
- 2001 Soybean
- 2002 Corn
- 2003 Soybean
- 2004 Corn
- 2005 Soybean
- 2006 Corn
- 2007 Soybean
- 2008 Corn
- 2009 Soybean
- 2010 Corn
- 2011 Soybean
- 2012 Corn
- 2013 Soybean
- 2014 Corn
- 2015 Soybean
- 2016 Corn
- 2017 Soybean
- 2018 Corn

Current Management

No manure or compost was applied to the fields for the Croplands Demo Project, so no changes will need to be added.

Step 1 Activities Step 2 **Field Management** Step 3 Report

Parcel Locations → Historic Management (Pre-2000) → **Baseline Management** (2000-2018) → Scenario Management (Scenarios for 10 year period)

Tillage, Implements, & Planting **Manure/Compost Application** Liming

Crop and Planting Date Fertilizer Application Irrigation Burning

User can add Manure or Compost Applications

For Parcel F1 in 2000 what were the manure application practices?

Manure Table ^{NEW!}

[Add New Manure Application Practice](#)

Date Applied	Manure Type	Amount Applied	Moisture (%)	Total Nitrogen (%)	Ammonium Nitrogen (%)	C/N Ratio	Delete
No data to display							

Parcel Management Summary [Delete Selected Crop]

Drag and Drop Crop Rotation

- 2000 Corn
- 2001 Soybean
- 2002 Corn
- 2003 Soybean
- 2004 Corn
- 2005 Soybean
- 2006 Corn
- 2007 Soybean
- 2008 Corn
- 2009 Soybean
- 2010 Corn
- 2011 Soybean
- 2012 Corn
- 2013 Soybean
- 2014 Corn
- 2015 Soybean
- 2016 Corn
- 2017 Soybean
- 2018 Corn

Move to Next Management Activity

<< Back **Next >>** Skip Ahead >>

Current Management

Select a parcel: **F1**



F1 (60 acres)

Data complete Data incomplete Selected

Parcel Management Summary [Delete Selected Crop]

Drag and Drop Crop Rotation

- 2000 Corn
- 2001 Soybean
- 2002 Corn
- 2003 Soybean
- 2004 Corn
- 2005 Soybean
- 2006 Corn
- 2007 Soybean
- 2008 Corn
- 2009 Soybean
- 2010 Corn
- 2011 Soybean
- 2012 Corn
- 2013 Soybean
- 2014 Corn
- 2015 Soybean
- 2016 Corn
- 2017 Soybean
- 2018 Corn

Tillage, Implements, Manure/Compost Application, Liming, Crop and Planting Date, Fertilizer Application, Irrigation, Burning

For Parcel F1 in 2000 what were the irrigation practices?

Irrigation Table

+ Add New Irrigation Application Practice

Date Applied	Inches Per Application	Delete
No data to display		

<< Back **Next >>** Skip Ahead >>

Tillage, Implements, Manure/Compost Application, Liming, Crop and Planting Date, Fertilizer Application, Irrigation, Burning

For Parcel F1 in 2000 what were the liming practices?

Liming Date: 05/06/2000
Liming Material: None
Amount Applied (tons/acre): 0

Fields for the Croplands Demo Project were not irrigated or burned, and lime was not applied. No changes will need to be added.

<< Back **Next >>** Skip Ahead >>

Tillage, Implements, Manure/Compost Application, Liming, Crop and Planting Date, Fertilizer Application, Irrigation, Burning

For Parcel F1 in 2000 did you burn crop residue (not including orchards and vineyards)?

No burning

Move to Future Scenario Management

↓

<< Back **Next >>** Skip Ahead >>

Current Management

Once all the management practices have been selected for a year, a window will appear offering the user the option to add an additional crop (cash or cover) for the same year.

This option is used for winter wheat or other crops whose growing season spans a calendar year.

No additional crops were added to the fields for the Croplands Demo Project, so click “No thanks, Continue”

Select a parcel: F1

F1 (60 acres)

Data complete Data incomplete Selected

Parcel Management Summary

Tillage, Implements, Manure/Compost Application, Liming, Crop and Planting Date, Fertilizer Application, Irrigation, Burning

For Parcel F1 in 2000 did you burn crop residue (not including orchards and vineyards)?

No burning

Add Additional Crop?

Would you like to add an additional crop for the same year?

If you have a second crop that spans between calendar years (i.e. **winter wheat**), add it as an additional crop this year and set its harvest date to be in the following year.

Yes, add additional crop for the same year. No Thanks, Continue >>

2009 Soybean
2010 Corn
2011 Soybean
2012 Corn
2013 Soybean
2014 Corn
2015 Soybean
2016 Corn
2017 Soybean
2018 Corn

<< Back Next >> Skip Ahead >>

Current Management

Select a parcel: F1

F1 (60 acres)

Tillage, Implements, Manure/Compost Application, Liming, Crop and Planting Date, Fertilizer Application, Irrigation, Burning

For Parcel F1 in 2000 did you burn crop residue (not including orchards and vineyards)?

No burning

Copy Crop?

Management for parcel F1 for 2000 is complete.

If you would like to copy the management details to other parcels and/or years, select those parcel-years and click the Copy button.

- Crop-Year to be copied
- Crop-Year has data

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Parcel	F1																			
Status	select ✓	select <input type="checkbox"/>	select <input type="checkbox"/>	select <input type="checkbox"/>	select <input type="checkbox"/>	select <input type="checkbox"/>	select <input type="checkbox"/>	select <input type="checkbox"/>	select <input type="checkbox"/>	select <input type="checkbox"/>	select <input type="checkbox"/>	select <input type="checkbox"/>	select <input type="checkbox"/>	select <input type="checkbox"/>	select <input type="checkbox"/>	select <input type="checkbox"/>	select <input type="checkbox"/>	select <input type="checkbox"/>	select <input type="checkbox"/>	select <input type="checkbox"/>

No, thanks >>

Copy & Continue >>

Data is entered for all of the baseline years for the Cropland Demo Project. Click "No, Thanks" to continue to Future Management.

At this point, the user's data entry is completed. the "Copy Crop?" window will appear giving the user the opportunity to copy the crop and management information from the current to subsequent years to avoid re-entering data. If the crop years are not highlighted in red, there is no data for that year.

2011 Soybean
2012 Corn
2013 Soybean
2014 Corn
2015 Soybean
2016 Corn
2017 Soybean
2018 Corn

<< Back Next >> Skip Ahead >>

Future Management

The Demo-Future Management window will appear that describes the new scenario.

This feature of COMET-Farm™ allows users to see how changes in management can impact greenhouse gas emissions and carbon sequestration.

The screenshot displays the 'Future Management' section of the COMET-Farm software. At the top, navigation tabs include 'Parcel locations', 'Historic Management (Pre-2000)', 'Baseline Management (2000-2018)', and 'Scenario Management (Scenarios for 10 year period)'. The 'Selected Scenario' is 'no till'. A map shows 'Parcel F1 (60 acres)'. A management timeline includes 'Tillage, Implements & Planting', 'Fertilizer Application', 'Manure/Compost Application', 'Irrigation', 'Liming', and 'Burning'. A question asks: 'For Parcel F1 in 2019 what crop will you plant, when will you plant, and when will you harvest?'. The crop type is 'Annual Crop/Hay/Grass' and the selected crop is 'Corn'. A 'Demo - Future Management' window is overlaid, featuring the 'Croplands Demo' logo and text: 'The hypothetical future scenario developed for this demonstration depicts a conversion from conventional tillage to no-tillage. Both the grain corn and soybeans were converted to a no-tillage system. Everything else stayed the same.' An 'Ok' button is highlighted with a yellow box. Below the window, the text 'Move to Future Management' is followed by a yellow arrow pointing to the 'Ok' button. At the bottom of the interface are navigation buttons: '<< Back', 'Next >>', and 'Skip Ahead >>'.

Future Management

The crop and management practices defined in the user's "Current Management" is automatically used as the baseline that all future scenarios are compared to.

Any management practices that have been defined in the current management can be modified in this Future Scenario section.

No changes were made to the crop rotation for the Future Management for the Cropland Demo. Click "Next" to move to next management practice.

The screenshot displays the 'Future Management' interface. At the top, there are tabs for 'Parcel Locations', 'Historic Management', 'Baseline Management', and 'Scenario Management'. The 'Scenario Management' tab is active, showing a timeline of management activities: Tillage, Implements, Manure/Compost Application, Liming, Crop and Planting Date, Fertilizer Application, Irrigation, and Burning. Below this, a question asks: 'For Parcel F1 in 2019 what crop will you plant, when will you plant, and when will you harvest?'. The user has selected 'Annual Crop/Hay/Grass', 'Corn' as the crop, and '05/07/2019' as the planting date. A 'Harvest Table' is shown with one entry for 10/31/2019, with a projected yield of 160 bu/ac and 0% straw/stover removal. A 'Grazing Table' is empty, showing 'No data to display'. At the bottom, there are navigation buttons: '<< Back', 'Next >>', and 'Skip Ahead >>'. A yellow arrow points from the 'Next >>' button to the text 'Move to next management activity'.

Selected Scenario [new]
 ▶ no till [delete] [rename]

Select a parcel: F1 [crop]

Scenario Selector

F1 (60 acres)

Data complete Data incomplete Selected

Parcel Management Summary
 [Delete Selected Crop]

Drag and Drop Crop Rotation

- 2019 Corn
- 2020 Soybean
- 2021 Corn
- 2022 Soybean
- 2023 Corn
- 2024 Soybean
- 2025 Corn
- 2026 Soybean
- 2027 Corn
- 2028 Soybean

Crop-Year Selector;
 Note that the time sequence is 10 years.

Move to next management activity

<< Back Next >> Skip Ahead >>

Future Management

The Future Scenario Management pages have the same functionality as the Current Management page, however users can modify their management choices they wish to compare to their baseline for up to 10 Future Scenarios.

Changes to the Future Management for the Cropland Demo Project have already been made to the Tillage, Implements, & Planting page. No additional changes need to be made.

The screenshot displays the 'Future Management' interface for a 'no till' scenario. At the top, a navigation bar shows 'Parcel Locations', 'Historic Management', 'Baseline Management', and 'Scenario Management'. The 'Selected Scenario' is 'no till'. Below this, a map shows 'F1 (60 acres)'. A 'Parcel Management Summary' section includes a 'Drag and Drop Crop Rotation' list with years 2019-2028 and crops like Corn and Soybean. The 'Implement Table' shows a single entry for '5/1/2019' with 'No Tillage' and a 'Delete' button. A text box notes: 'Cropland Demo Future Scenario changed to No Tillage'. Navigation buttons at the bottom include '<< Back', 'Next >>', and 'Skip Ahead >>'.

Timeline: Crop and Planting Date, Tillage, Implements, Manure/Compost Application, Irrigation, Liming, Burning

Selected Scenario: no till

Select a parcel: F1

Implement Table

Date Applied	Implement Pass	Delete
5/1/2019	No Tillage	X

For Parcel F1 in 2019 what will be your tillage practices? Same as Current Management

Cropland Demo Future Scenario changed to No Tillage

Move to next management activity

<< Back Next >> Skip Ahead >>

Future Management

Users can click the "Next" button to continue through the Future Scenario Management Practices, similar to the Current Management pages.

A window will appear giving the option to create a new scenario, keep editing, or continue to the report.

The screenshot shows a web application interface for managing scenarios. At the top, there are navigation tabs: "Parcel Locations", "Historic Management" (Pre-2000), "Baseline Management" (2000-2018), and "Scenario Management" (Scenarios for 10 year period). The "Scenario Management" tab is active. Below the tabs, there is a "Selected Scenario" section with a dropdown menu showing "no till" and options to "delete" or "rename". A "Select a parcel:" dropdown shows "F1" with a "[CPA]" link. A map shows a parcel labeled "F1 (60 acres)". To the right, there is a progress bar with steps: "Tillage, Implements, Manure/Compost & Planting", "Fertilizer Application", "Irrigation", "Liming", and "Burning". Below the progress bar, there is a question: "For Parcel F1 in 2019 what crop will you plant, when will you plant, and when will you harvest?" and a "What type of crop?:" section with radio buttons for "Annual Crop/Hay/Grass" (selected), "Seasonal Cover Crop", and "Orchard/Vineyard Crop". A "Data complete" indicator is visible. A "Future Management Scenarios" dialog box is open, asking "Are you ready to run your report?" and featuring a "Continue to Report >>" button highlighted with a yellow box. Below the dialog, there are "Create New Scenario" and "Keep Editing" buttons. At the bottom of the main interface, there are "No data to display" and navigation buttons: "<< Back", "Next >>", and "Skip Ahead >>".

For the Cropland Demo Project, all the modifications have already been made, so users can continue to report.

COMET-Farm™ Report

Cropland, Pasture, Range, Orchards/Vineyards | Cropland Graphical Report | Available Water Holding Capacity


Report is running: 00:01:14 0% Complete

NAME: Haley Nagle | JOBID: 17868_35277_148671
PROJECT: Croplands Demo Project | Time: Fri Jul 10 2020 11:12:54 GMT-0600 (Mountain Daylight Time)
Daycent Status: Running at 100% | Version: Cloud deployment version 2.3.3, build 3.2.7488.17990 (02-Jul-2020)
REPORTING YEARS: 2019 - 2028

USDA United States Department of Agriculture | Colorado State University | DayCent Portal | Data Offramp | Show uncertainty as percentage

Source	Baseline Emissions		no till		Change
	Emissions	+/-	Emissions	+/-	
F1 (60 acres - Corn, Soybean) Checking status...					
Running step 3 of 3 for F1. Calling DayCent and computing empirical calculations					
Total	0.0		0.0		

Demo - Crops Reports



Croplands Demo

The results for this 60 acre field show an estimated carbon sequestration and reduced soil nitrous oxide emissions from conversion to no-tillage.

Ok

Depending on the amount of parcels, scenarios, and complexity of the project, it may take several minutes to load.

†Uncertainty of the soil carbon and woody biomass carbon stock change model estimate is currently in development. N2O sub-source emission uncertainty is available by double clicking the N2O source category.

COMET-Farm™ Report

Step 1 Activities | Step 2 Field Management | Step 3 Report


Cropland, Pasture, Range, Orchards/Vineyards | Cropland Graphical Report | Available Water Holding Capacity

Report finished: 00:02:40 100% Complete


NAME: Haley Nagle | JOBID: 17868_35277_148683
 PROJECT: Croplands Demo Project | Time: Fri Jul 10 2020 11:20:57 GMT-0600 (Mountain Daylight Time)
 Daycent Status: Running at 100% | Version: Cloud deployment version 2.3.3, build 3.2.7488.17990 (02-Jul-2020)
 REPORTING YEARS: 2019 - 2028

USDA United States Department of Agriculture | Colorado State University | DayCent Portal | Data Offramp | Show uncertainty as percentage


Source	Baseline Emissions		no till		Change	
	Emissions	+/-	Emissions	+/-	Change	+/-
F1 (60 acres - Corn, Soybean)						
C (tonnes CO ₂ equiv./yr.)	-7.0	NR [†]	-47.6	NR [†]	-40.6	NR [†]
CO ₂ (tonnes/yr.)	0.0	+0/-0	0.0	+0/-0	0.0	+0/-0
CO (tonnes CO ₂ equiv./yr.)	0.0	+0/-0	0.0	+0/-0	0.0	+0/-0
N ₂ O (tonnes CO ₂ equiv./yr.)	31.5	NR [†]	33.6	NR [†]	+2.1	NR [†]
CH ₄ (tonnes CO ₂ equiv./yr.)	0.0	+0/-0	0.0	+0/-0	0.0	+0/-0
Total	24.5	NR[†]	-14.0	NR[†]	-38.5	NR[†]
Total (all parcels)	24.5	NR[†]	-14.0	NR[†]	-38.5	NR[†]




Source Categories



Baseline "Business as Usual" Emissions



Future Management Scenario Emissions



Change in Emissions

While different practices impact different greenhouse gas fluxes, the results are simplified in terms of Metric Tonnes of CO₂ eq.

Negative results indicate emissions reductions OR carbon sequestration

[†]Uncertainty of the soil carbon and woody biomass carbon stock change model estimate is currently in development. N2O sub-source emission uncertainty is available by double clicking the N2O source category.

COMET-Farm™ Report

Step 1 Activities | Step 2 Field Management | Step 3 Report

Cropland, Pasture, Range, Orchards/Vineyards | Cropland Graphical Report | Available Water Holding Capacity

Report finished: 00:02:36 100% Complete

NAME: Haley Nagle | JOBID: 17868_35277_148671
 PROJECT: Croplands Demo Project | Time: Fri Jul 10 2020 11:14:12 GMT-0600 (Mountain Daylight Time)
 Daycent Status: Running at 100% | Version: Cloud deployment version 2.3.3, build 3.2.7488.17990 (02-Jul-2020)
 REPORTING YEARS: 2019 - 2028

Source	Baseline Emissions		
	Emissions	+/-	Emissions
F1 (60 acres - Corn, Soybean)			
C (tonnes CO ₂ equiv./yr.)	-7.0	NR ¹	-47.6
CO ₂ (tonnes/yr.)	0.0	+0/-0	0.0
CO (tonnes CO ₂ equiv./yr.)	0.0	+0/-0	0.0
N ₂ O (tonnes CO ₂ equiv./yr.)	31.5	NR ¹	33.6
CH ₄ (tonnes CO ₂ equiv./yr.)	0.0	+0/-0	0.0
Total	24.5	NR¹	-14.0


USDA United States Department of Agriculture
 Natural Resources Conservation Service

Report finished: 00:02:36 100% Complete

NAME: Haley Nagle | JOBID: 17868_35277_148671
 PROJECT: Croplands Demo Project | Time: Fri Jul 10 2020 11:14:12 GMT-0600 (Mountain Daylight Time)
 Daycent Status: Running at 100% | Version: Cloud deployment version 2.3.3, build 3.2.7488.17990 (02-Jul-2020)
 REPORTING YEARS: 2019 - 2028

Source	Baseline Emissions			no till		
	Emissions	+/-	Emissions	+/-	Change	+/-
F1 (60 acres - Corn, Soybean)						
C (tonnes CO ₂ equiv./yr.)	-7.0	NR ¹	-47.6	NR ¹	-40.6	NR ¹
Soil	-7.0	NR ¹	-47.6	NR ¹	-40.6	NR ¹
Woody Biomass	0.0	NR ¹	0.0	NR ¹	0.0	NR ¹
CO ₂ (tonnes/yr.)	0.0	+0/-0	0.0	+0/-0	0.0	+0/-0
Liming	0.0	+0/-0	0.0	+0/-0	0.0	+0/-0
Urea Fertilization	0.0	+0/-0	0.0	+0/-0	0.0	+0/-0
Drained Organic Soils	0.0	+0/-0	0.0	+0/-0	0.0	+0/-0
CO (tonnes CO ₂ equiv./yr.)	0.0	+0/-0	0.0	+0/-0	0.0	+0/-0
Biomass Burning	0.0	+0/-0	0.0	+0/-0	0.0	+0/-0
N ₂ O (tonnes CO ₂ equiv./yr.)	31.5	NR ¹	33.6	NR ¹	+2.1	NR ¹
Direct N ₂ O Emissions	24.7	+11/-8.5	26.1	+12.1/-9.4	+1.4	+1.1/-0.9
Direct - Soil	24.7	+11/-8.5	26.1	+12.1/-9.4	+1.4	+1.1/-0.9
Direct - Biomass Burning	0.0	+0/-0	0.0	+0/-0	0.0	+0/-0
Direct - Drained Organic Soil	0.0	+0/-0	0.0	+0/-0	0.0	+0/-0
Indirect N ₂ O Emissions	6.8	+7.3/-4.6	7.5	+8/-5.1	+0.7	+0.8/-0.5
Indirect - Volatilization	2.7	+4.5/-2.2	3.0	+5/-2.5	+0.3	+0.5/-0.2
Indirect - Leaching and Runoff	4.1	+6.5/-3.4	4.5	+7.1/-3.7	+0.4	+0.7/-0.3
CH ₄ (tonnes CO ₂ equiv./yr.)	0.0	+0/-0	0.0	+0/-0	0.0	+0/-0
Biomass Burning	0.0	+0/-0	0.0	+0/-0	0.0	+0/-0
Total	24.5	NR¹	-14.0	NR¹	-38.5	NR¹
Total (all parcels)	24.5	NR¹	-14.0	NR¹	-38.5	NR¹

By clicking on the source categories for each emission type, the sub-source categories appear.

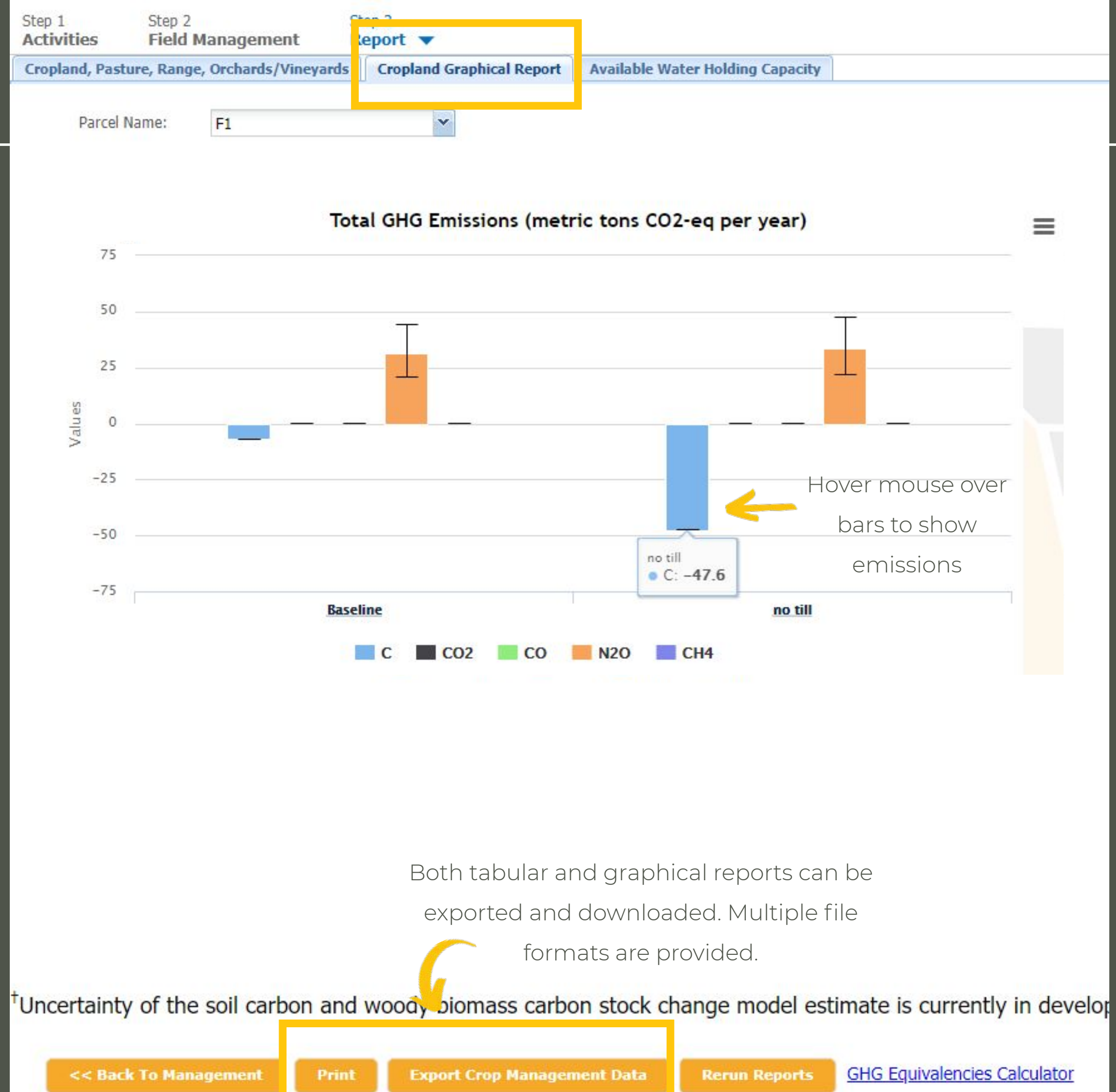


COMET-Farm™ Report

The graphical report can be found in the tab at the top of the reports page.

Reports will be available to registered users when they return late to the tool and open the same project.

The user may navigate away from this page as the information entered has been saved.



Final Notes

COMET Farm | USDA United States Department of Agriculture Natural Resources Conservation Service | Colorado State University | Whole Farm and Ranch Carbon and Greenhouse Gas Accounting System

HOME TOOL INFO HELP (Sign in or Register)

What is COMET-Farm?

COMET-Farm is a whole farm and ranch carbon and greenhouse gas accounting system.

The tool guides you through describing your farm and ranch management practices including alternative future management scenarios. Once complete, a report is generated comparing the carbon changes and greenhouse gas emissions between your current management practices and future scenarios.

[Start Using COMET-Farm](#)

[Why should I use COMET-Farm?](#) | [USDA GHG methods](#) | [What information do I need?](#) | [How are my results calculated?](#) | [Is my information safe?](#) | [How do I use COMET-Farm?](#) | [Overview video](#)

Related Tools

[COMET-Energy Tool](#) [Go to COMET-Energy Tool >>](#) | [COMET-Planner Tool](#) [Go to COMET-Planner Tool >>](#)

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Welcome to Support

[Got questions?](#)

Search for help

Suggested articles

- Crops with overlapping calendar years
- Entity grows in size over time
- Case of multiple cover crops

[Contact us](#)

by Freshworks

[Help](#)

- Search for solutions to common questions or submit a help-desk ticket for COMET- Farm™ support.

-Blue question mark icons provide information on categories and what can be evaluated 

Thank you from the COMET-Farm™ Team!

