

COMET QUARTERLY

COMET-Farm Newsletter



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In the News

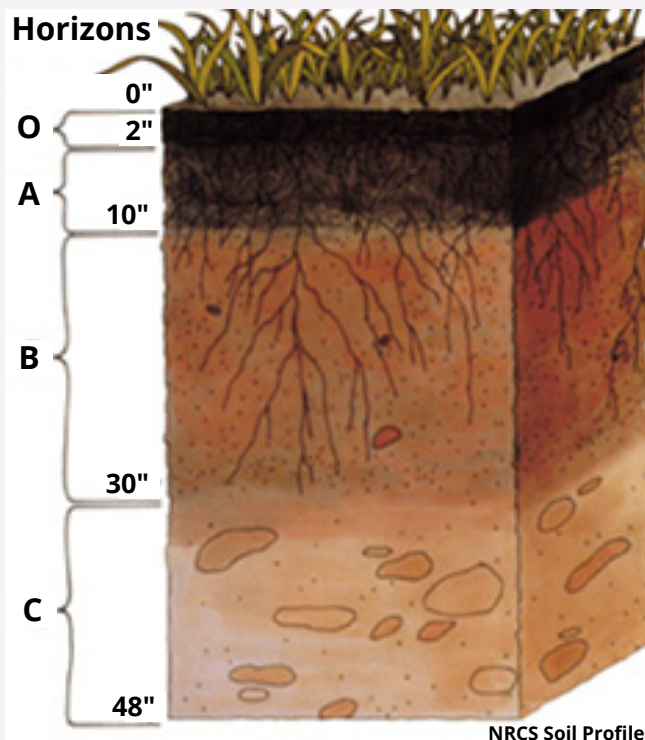
USDA Partnerships for Climate-Smart Commodities

In Sept 2022, USDA announced the Partnership for Climate-Smart Commodities recipients for "pilot projects to create market opportunities for commodities produced using climate-smart practices." Where applicable, USDA encourages use of the COMET-Tools to determine estimates of greenhouse gas impacts of commodity production activities. For more information on the program, visit [USDA's program information page](#).

- For more information on COMET's role in projects, check out [USDA's FAQ page](#) and COMET's [FAQ page](#).
- For COMET trainings available, view page 3 of this newsletter.

DayCent Model Updates in COMET

In Fall 2022, COMET-Farm will run the latest and most up-to-date version of the process-based simulation ecosystem model DayCent to align with the most recent Environmental Protection Agency's (EPA) Inventory of U.S. Greenhouse Gas Emissions and Sinks ([read more](#)). While the previous version of the DayCent model used by COMET-Farm provided soil organic carbon (SOC) estimates at 20cm soil depth, the latest versions provide estimates at 30cm soil depth aligned with the Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories ([read more](#)). For an in depth description of the model changes and respective uncertainty analyses, please visit [THIS ARTICLE](#).



Conservation Practice Advisor (CPA) Updates

Want to quickly assess frequently used conservation practices in your future scenario? Use the CPA to modify practices on a parcel without manually adjusting the management every year. New practices for field borders/strips and conservation cover have been added to the CPA in the September 2022 update.

Step 1 Activities Step 2 Field Management Step 3 Animal Agriculture Step 4 Agroforestry Management Step 5 Report

Parcel Locations → Historic Management → Baseline Management → Scenario Management

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

Select a parcel: F1 [CPA]

F2 (5 acres) F1 (60 acres)

Data complete Data incomplete Selected

Parcel Management Summary [Delete Selected Crop]

Drag and Drop Crop Rotation

2022 Grass-Legume Mix

For Parcel F1 in 2022 what crop will you plant, when will you plant, and when will you harvest?

Add Conservation Practice

Conservation Practice for F1

MANAGEMENT CONSERVATION PRACTICES

☐ CONSERVATION TILLAGE

☐ Convert to reduced tillage (CPS 345)

☐ Convert to no tillage (CPS 329)

☐ ADD COVER CROPS (CPS 340) AND CORRESPONDINGLY ADJUST FERTILIZER APPLICATION RATES (CPS 590)

☐ ADD COVER CROPS (CPS 340)

☐ Strips & Borders

☐ Contour Buffer Strips (CPS 332) Convert Strips of Cropland to Permanent Unfertilized Grass Cover

☐ Contour Buffer Strips (CPS 332) Convert Strips of Cropland to Permanent Unfertilized Grass/Legume Cover

☐ Field Border (CPS 386) Convert Strips of Cropland to Permanent Unfertilized Grass Cover

☐ Field Border (CPS 386) Convert Strips of Cropland to Permanent Unfertilized Grass/Legume Cover

☐ Riparian Herbaceous Cover (CPS 390) Convert Strips of Cropland to Permanent Unfertilized Grass Cover

☐ Riparian Herbaceous Cover (CPS 390) Convert Strips of Cropland to Permanent Unfertilized Grass/Legume Cover

☐ Filter Strip (CPS 393) Convert Strips of Cropland to Permanent Unfertilized Grass Cover

☐ Filter Strip (CPS 393) Convert Strips of Cropland to Permanent Unfertilized Grass/Legume Cover

☐ Grassed Water Way (CPS 412) Convert Strips of Cropland to Permanent Unfertilized Grass Cover

☐ Grassed Water Way (CPS 412) Convert Strips of Cropland to Permanent Unfertilized Grass/Legume Cover

☐ Vegetative Barrier (CPS 601) Convert Strips of Cropland to Permanent Unfertilized Grass Cover

☐ Vegetative Barrier (CPS 601) Convert Strips of Cropland to Permanent Unfertilized Grass/Legume Cover

☐ Conservation Cover (CPS 327)

☐ Convert Cropland to Permanent Unfertilized Grass Cover

☐ Convert Cropland to Permanent Unfertilized Grass/Legume Cover

Add Clear Selection Practice Definitions

1. Complete all *Baseline Management* and navigate to *Scenario Management*.

2. Select *CPA* next to "select a parcel".

CPA Example:

If a user opts to convert a corn-soybean baseline management to a *contour buffer strip with grass/legume (CPS 332)*, they could use the CPA tool. By selecting a practice from the CPA window, all future years will convert from corn-soybean to continuous grass/legume management consistent with CPS 332 without the user manually adjusting each year's management.

3. Select which CPS to apply to your parcel.

4. Select *Add*.

WATER HOLDING CAPACITY REPORT


NEW COMET-Farm Feature...Coming September 2022

The Soil Water Holding Capacity Table will be available for users when using the COMET-Farm Cropland, Pasture, Range, Orchard/Vineyard accounting activity. Users will enter management details as usual, and the available water holding capacity report will generate as an additional tab on the report page. Each defined parcel will have a separate table with scenarios listed vertically in the table. For assistance on interpreting the water holding capacity report and methods used in generating the report, a help document will be available when the report is publicly available.

Step 1
Activities

Step 2
Field Management

Step 3
Report ▼

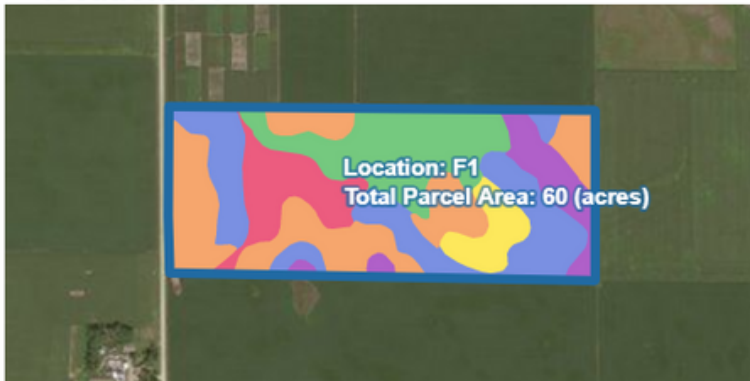

Cropland, Pasture, Range, Orchards/Vineyards

Cropland Graphical Report

Available Water Holding Capacity

Available Water Holding Capacity Report[?]

location: F1



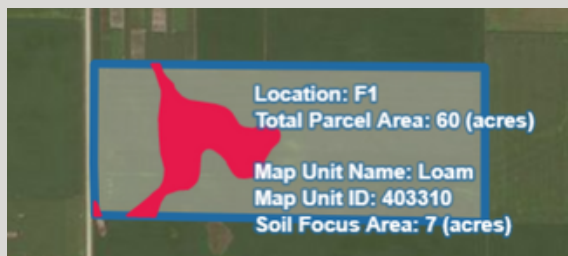
Available water holding capacity by field or soil map unit (bottom image)

Summary Results

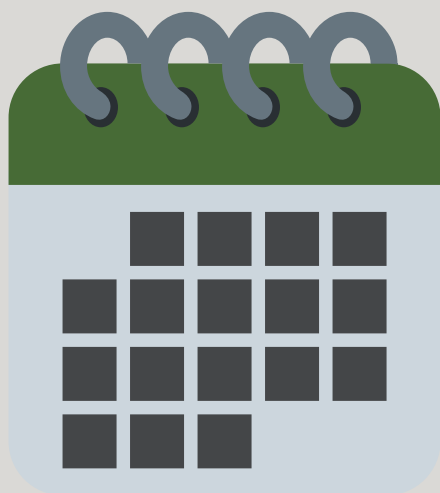
Project Scenario(s)	Estimated AWHC in Top 6 inches of Soil (gallons/acre)	Estimated Absolute AWHC in Top 6 inches of Soil (inches water)
Baseline	28,542	1.051
no till	+443	+0.016

Soil Map Unit: Loam - 403310

Project Scenario(s)	Estimated AWHC in Top 6 inches of Soil (gallons/acre)	Estimated Absolute AWHC in Top 6 inches of Soil (inches water)
Baseline	30,422	1.12
no till	+580	+0.021



Upcoming Trainings



- COMET Overview & Cropland Project Demo
Thursday, Oct. 6th at 10am MST: [Register HERE](#)
- COMET Overview & Animal Ag Project Demo
Thursday, Oct. 13th at 10am MST: [Register HERE](#)
- COMET Multi-Accounting Project Demo
Thursday, Oct. 20th at 10am MST: [Register HERE](#)

Can't make these trainings? Check out the training calendar on the [help page](#).



**"Sen. Michael Bennet
tours ARDEC research
stations to learn how
agriculture is working on
climate change solutions"**

Read about Senator Bennet's experience at CSU with COMET-Farm, agrovoltics, the Soil Carbon Solution and more!

[READ](#)



**"Dirt First- Carbon farming
sounds as all-American as
apple pie. But does it work?"**

Embark on a journey with a commodity farmer who has "nothing to lose" as he experiments with carbon farming, COMET, and carbon markets.

[READ](#)



**"CSU and USDA
scientists identify gap in
U.S. greenhouse gas
reporting"**

Explore how accounting for spring thaw could improve the DayCent model and how mitigation practices can reduce GHG emissions.

[READ](#)

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