



Would you like to know the current soil water balance and crop stage of your fields from home?



CornSoyWater: Web/Mobile App for Irrigation Decision Making for Corn and Soybean Fields <http://cornsoywater.unl.edu>

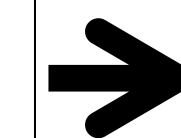
J Han, H Yang, D Payyala, J Specht, W Sorensen, S Cooper, M Shulski, K Hubbard, J Rees, G Kruger, G Zoubek, P Grassini, D Heeren, S Irmak, K Cassman, University of Nebraska, Lincoln, NE 68583, USA

Key Features of CornSoyWater App

1. Require field-specific but simple crop and soil info.
2. Use real-time weather data and Hybrid-Maize and SoySim models to estimate crop growth, water use, and soil water balance.
3. Auto determination of the best weather data source for a field.
4. Use crop stage specific irrigation triggering scheme for better yield and water saving.
5. Graphic and tabular outputs on
 - (1) trend of available water in soil along with irrigation threshold,
 - (2) current crop stage,
 - (3) status of crop water stress, and
 - (4) recommendation for irrigation based on current situation and 3-day projection.
6. Free to use with companion smartphone apps.

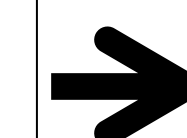
CornSoyWater Decision Making Process at the Web Server

Update real-time weather data for a field



Use Hybrid-Maize and SoySim models to estimate:

- Current crop stage and biomass growth
- Crop water use and soil water balance
- Crop water stress
- Call for irrigation if water stress is to appear



Display:

- Irrigation recommendation
- Crop stage
- Graphic trend of soil water balance in relation to irrigation threshold
- Tabular summary of soil water input and use since planting

Example of CornSoyWater Output for a Corn Field

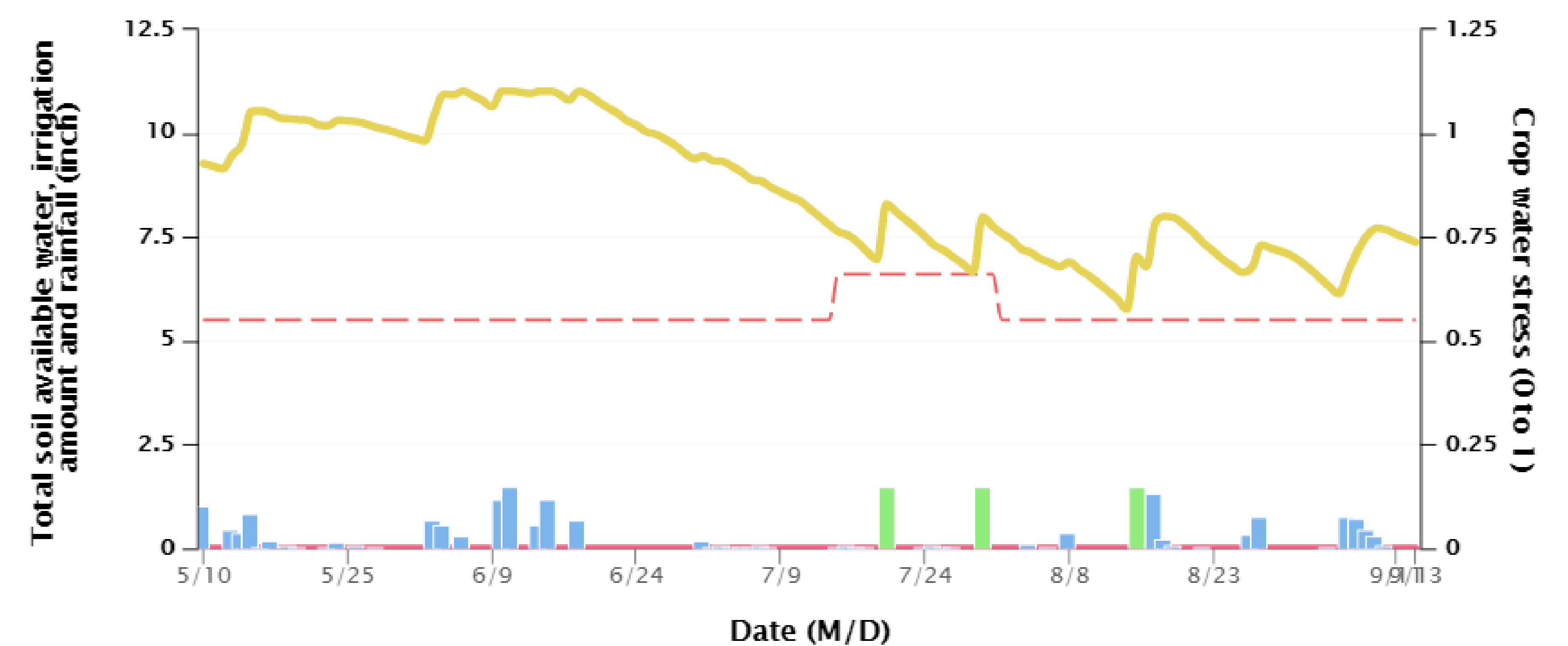


No crop water stress is projected for the next 3 days.

Crop water stress scales from 0 to 1, with 0 being no water stress and 1 being severe water stress. When simulated water stress has occurred or is predicted to occur within next three days, irrigation is recommended if no substantial rainfall is forecasted.

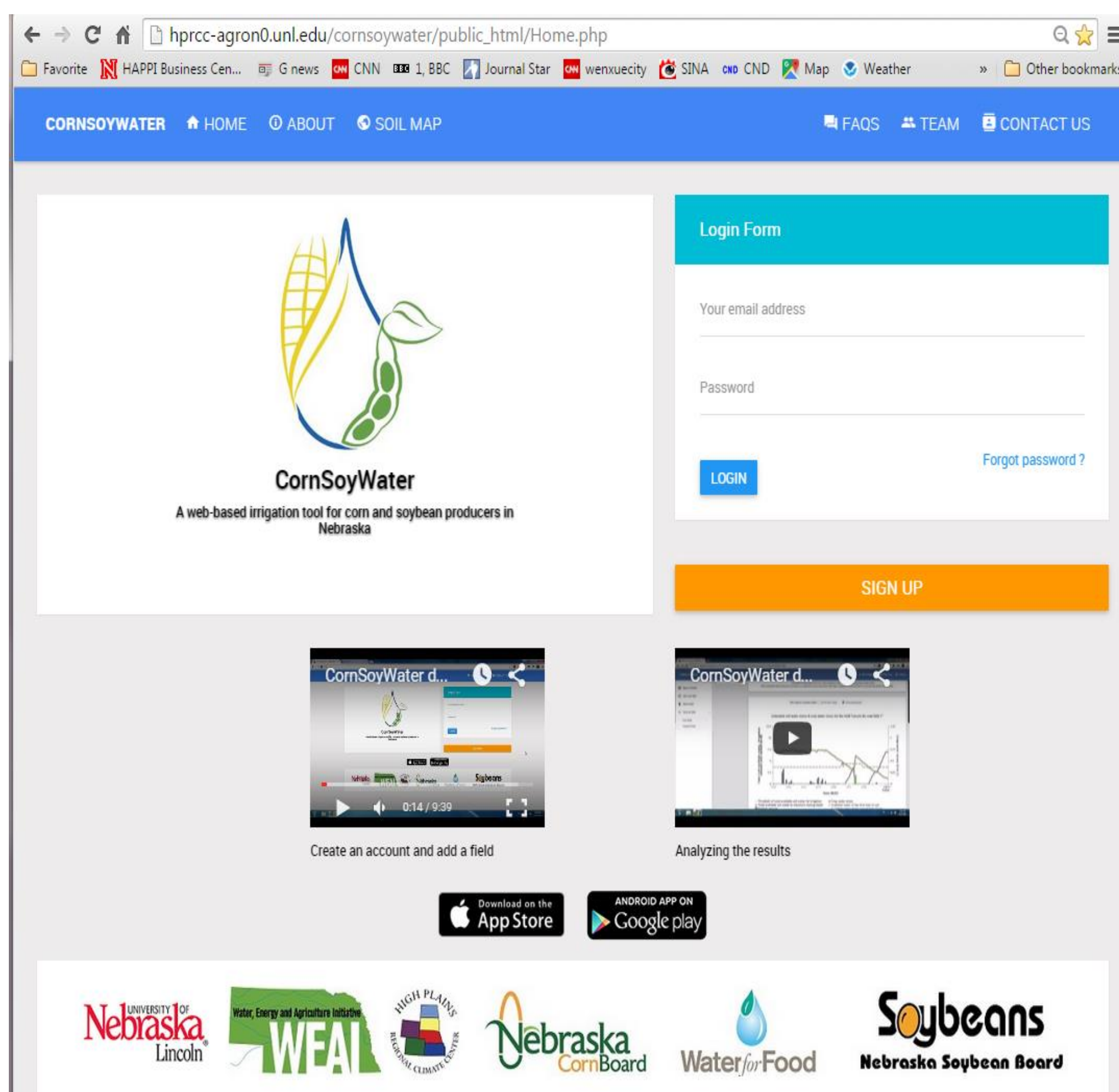
Time frame for showing results: For the last 7 days From planting date

Estimated soil water status & crop water stress for the field "7"

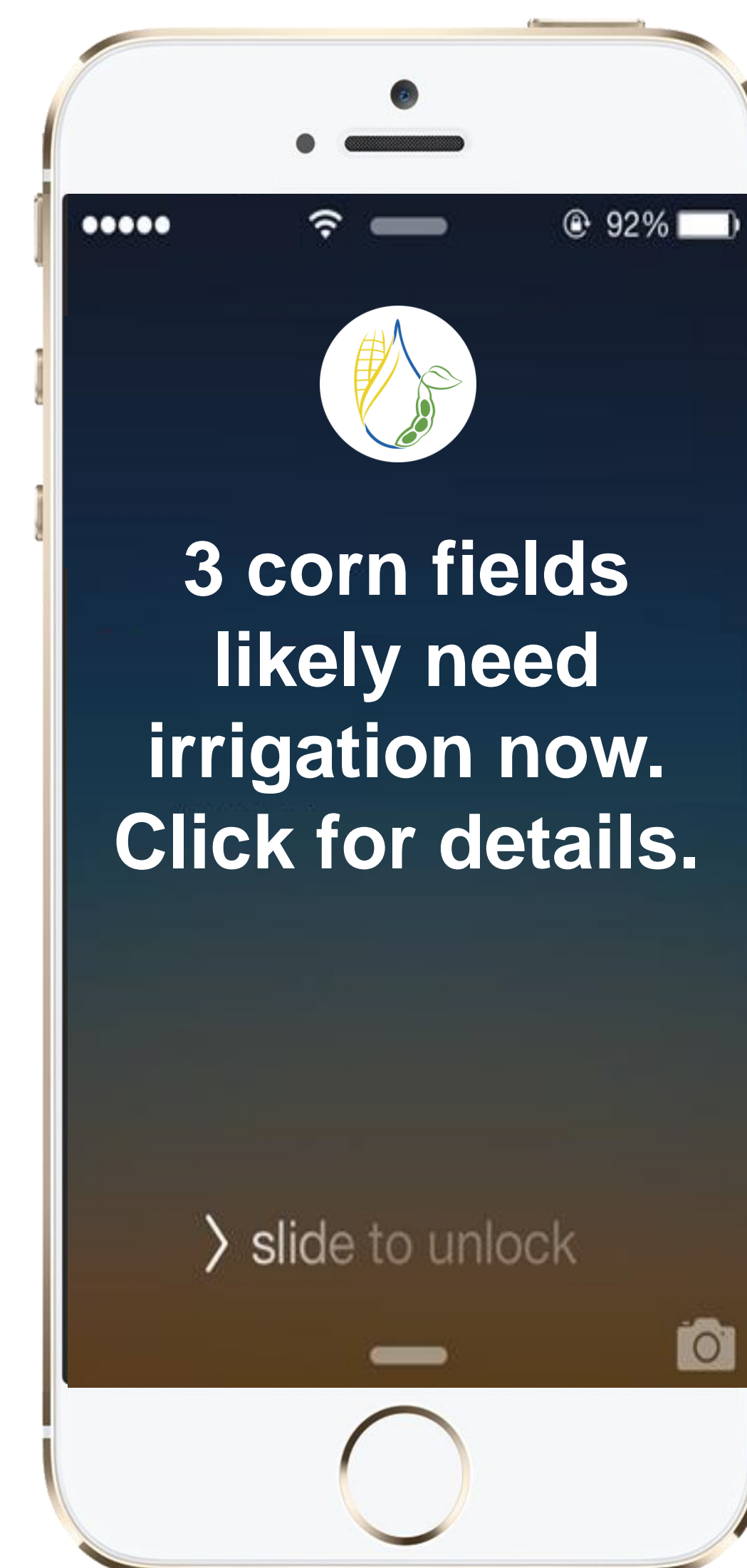


— Threshold of total available soil water for irrigation
 — Crop water stress
 — Available water of the first foot of soil
 — Available water of the second foot of soil
 — Available water below the second foot of soil
 — Total available soil water to maximum rooting depth
 — Rainfall amount
 — Irrigation amount

CornSoyWater Web App
<http://cornsoywater.unl.edu>



CornSoyWater Mobile App



Resource support is provided by UNL-IANR, Nebraska Corn Board, Nebraska Soybean Board, Nebraska-WEAI, UNL Water For Food Institute, UNL-HPRCC. Contact Dr. Haishun Yang at: hyang2@unl.edu; 402-472-6372, UNL Dept of Agronomy and Horticulture, or James Han at: chengchouhan@huskers.unl.edu

