

# Investment Insight

## Recent Research Results

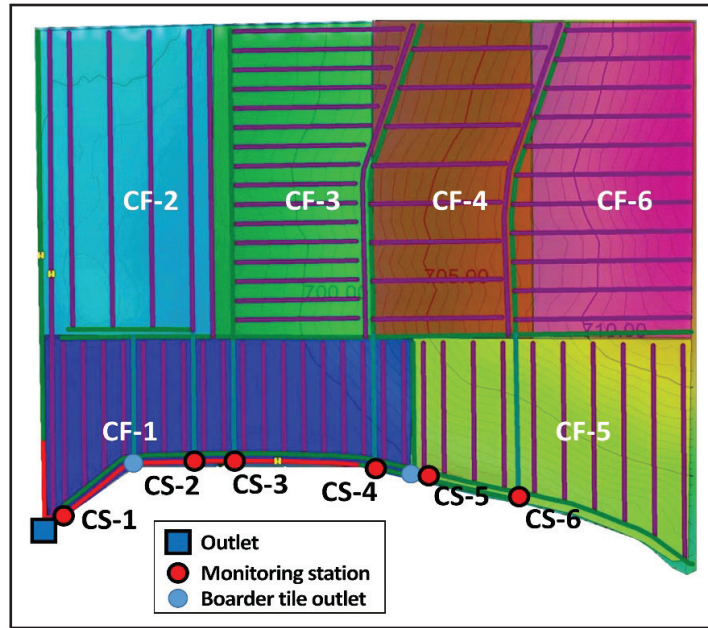
### How wide, how deep

#### Understanding the influence of tile depth and spacing on nutrient loss

Farmers know the importance of tile drainage, but what can we learn by understanding tile depth and spacing? It turns out we can learn quite a bit from how these factors influence soil water dynamics. Research under way by Dr. Rabin Bhattarai from the University of Illinois leads a study investigating how tile depth and spacing variations impact nitrogen (N) and phosphorous (P) losses. The study evaluates current tile drainage design and assesses negative impacts on tile drainage and N and P losses.

In the past, there have been few studies that investigated the impact of tile spacing and depth on water quality from tiled fields and their impact on the crop yield, but the results have not been conclusive. Dr. Bhattarai believes there have not been any comprehensive studies related to tile depth and spacing on nutrient loss and crop yield conducted in Illinois.

This project is be the first of its kind to quantify tile drainage nutrient losses for different combinations of tile depth and spacing while also assessing potential agronomic and environmental tradeoffs



The layout of the installed tile-drained fields and monitoring stations. CS-1, CS-2, CS-3, CS-4, CS-5, and CS-6 are a monitoring station to collect water samples and gauge tile flow for CF-1, CF-2, CF-3, CF-4, CF-5, and CF-6, respectively.

that have not been previously considered. Dr. Bhattarai plans to develop a drainage design tool that will provide an optimum solution for minimizing the nutrient loss, while enhancing crop production goals.



Tile being installed in the monitoring fields.

