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Tile Drainage in Massachusetts Cranberry Production

Carolyn J. DeMoranville
UMass Amherst, carolynd@umass.edu

Peter Jeranyama
peterj@umass.edu

Casey Kennedy
casecasey.kennedy@ars.usda.gov

Nick Alverson

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Tile drainage in Massachusetts cranberry production

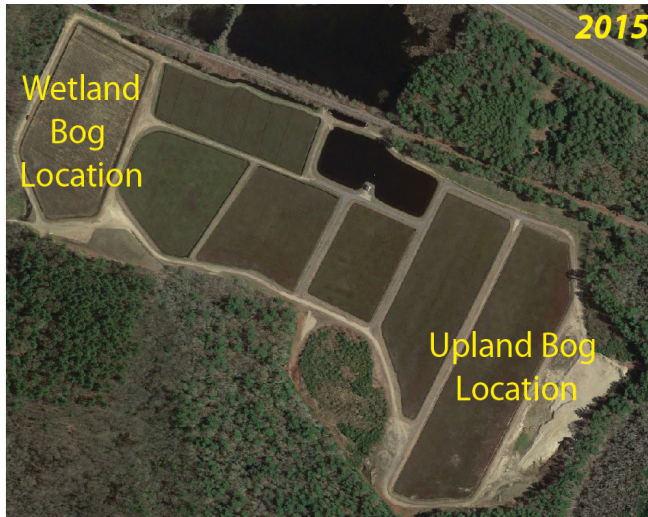
Carolyn DeMoranville, Peter Jeranyama,
Casey Kennedy, and Nick Alverson

- Funded by Northeast SARE
- Looked at spacing: horizontal and vertical (depth)
- Looked at functionality

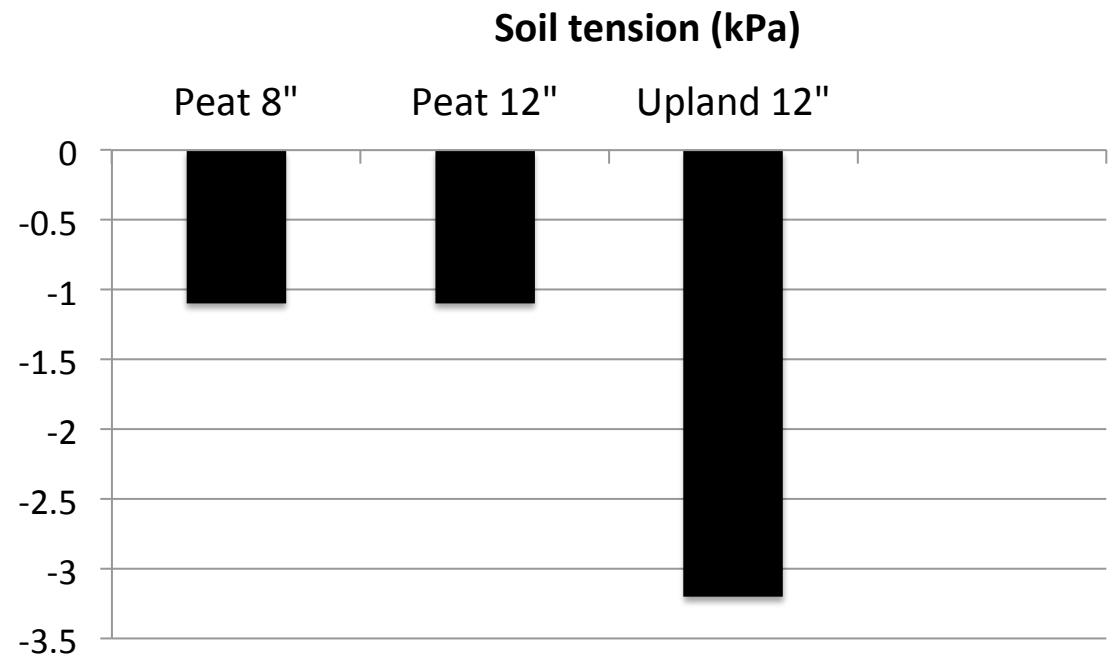


Tile Drainage Study - spacing

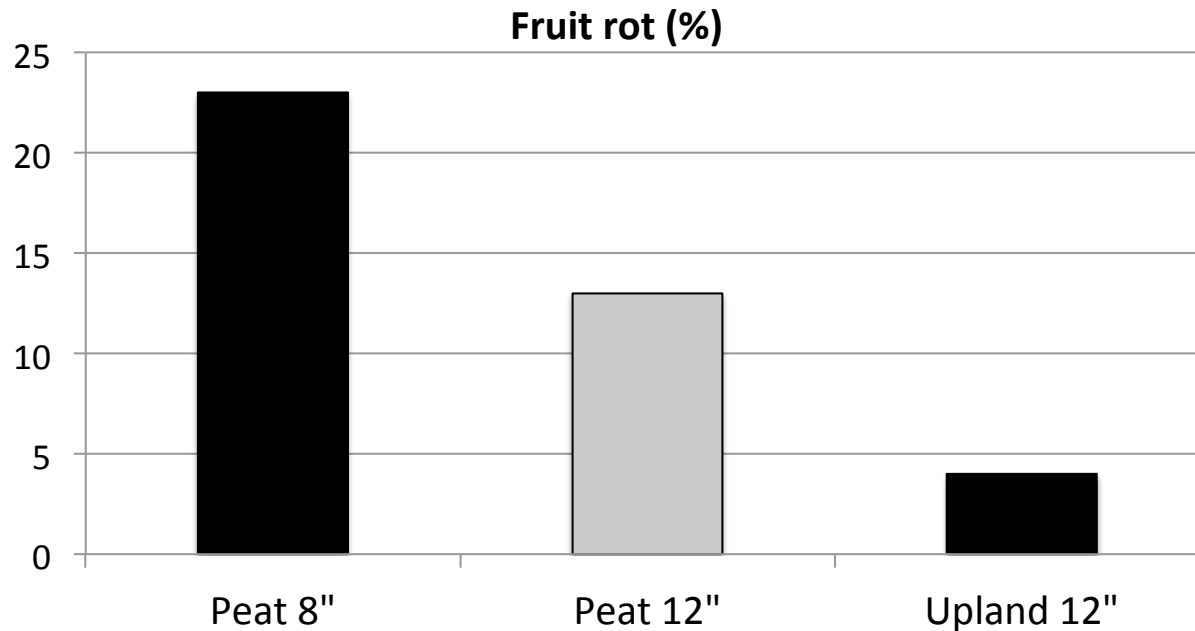
| Tile Spacing, feet | # of vegetative uprights ft ⁻² | # of upright with 1 berry ft ⁻² | # of uprights ≥ 1 berry ft ⁻² | Yield (BBL) |
|--------------------|---|--|--|-------------|
| 15 | 36 | 7 | 20 | 270 |
| 20 | 50 | 11 | 28 | 339 |
| 25 | 55 | 12 | 24 | 307 |
| <u>Contrasts</u> | | | | |
| 15 vs. 20 | NS | ** | * | * |
| 15 vs. 25 | * | ** | NS | NS |
| 20 vs. 25 | NS | NS | NS | NS |



Tile depth study

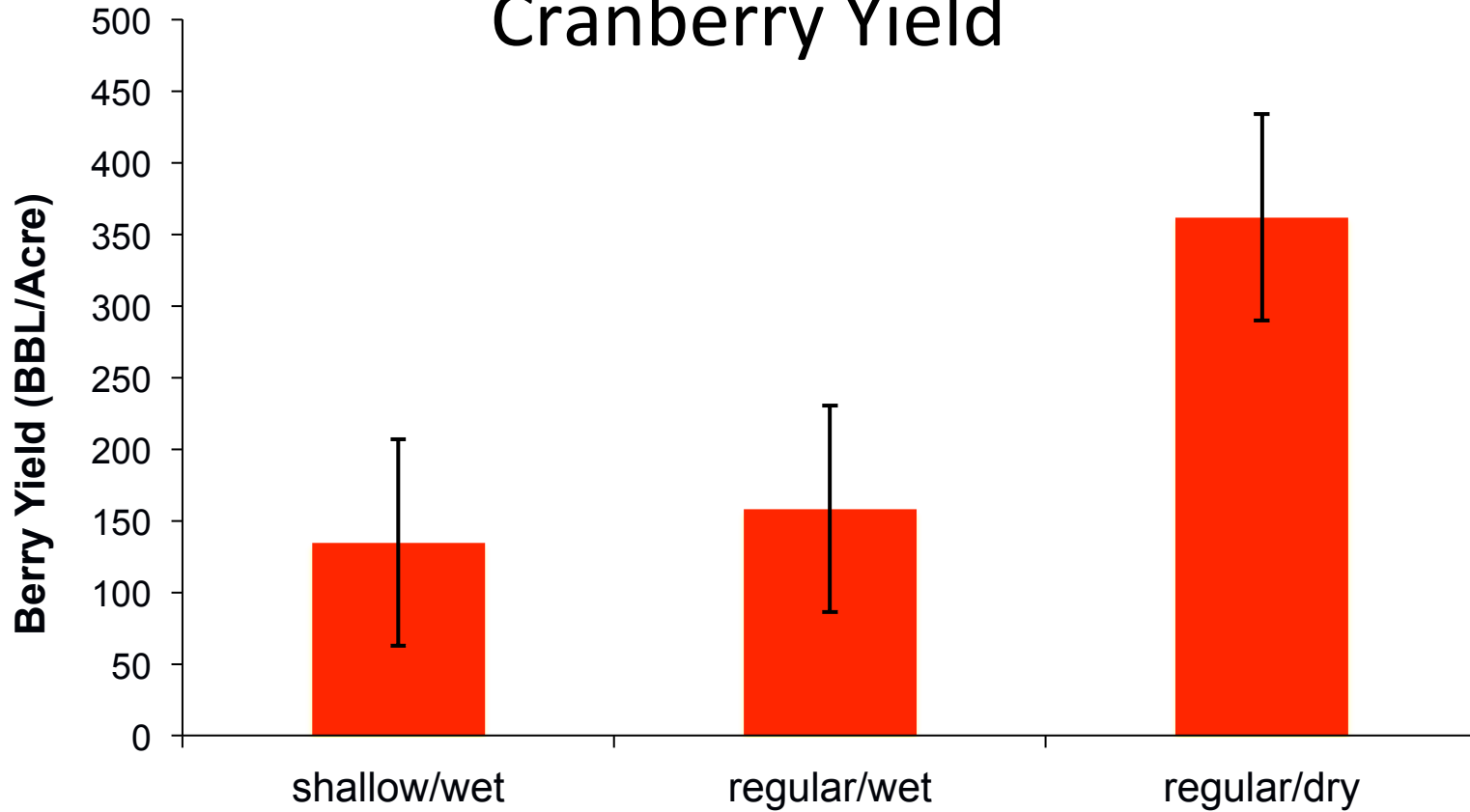


Tile depth/drainage – Fruit Rot

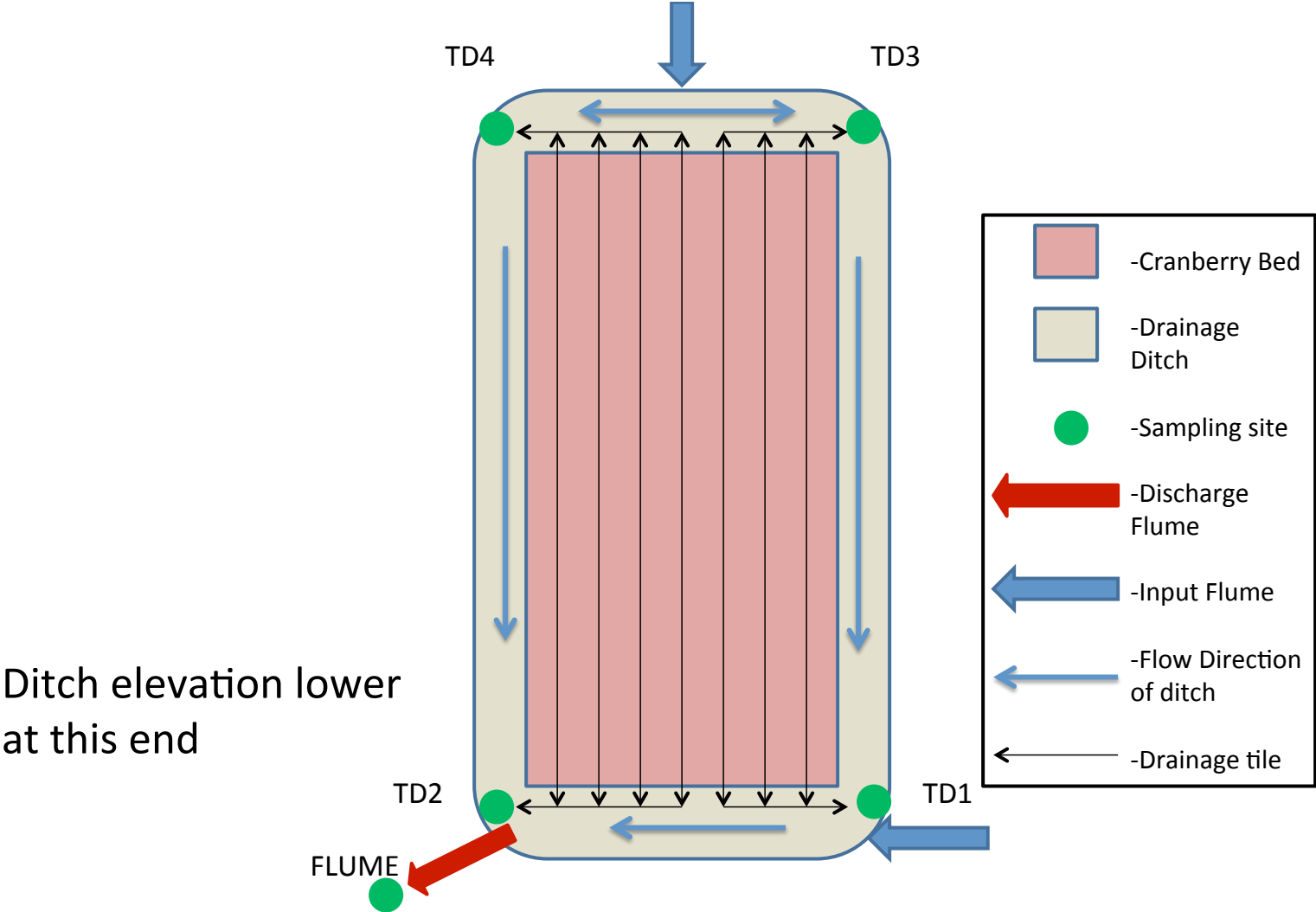


Depth
matters but
so does
subsoil base

Soil Tension and Tile Drainage Depth Effects on Cranberry Yield



Tile drain function



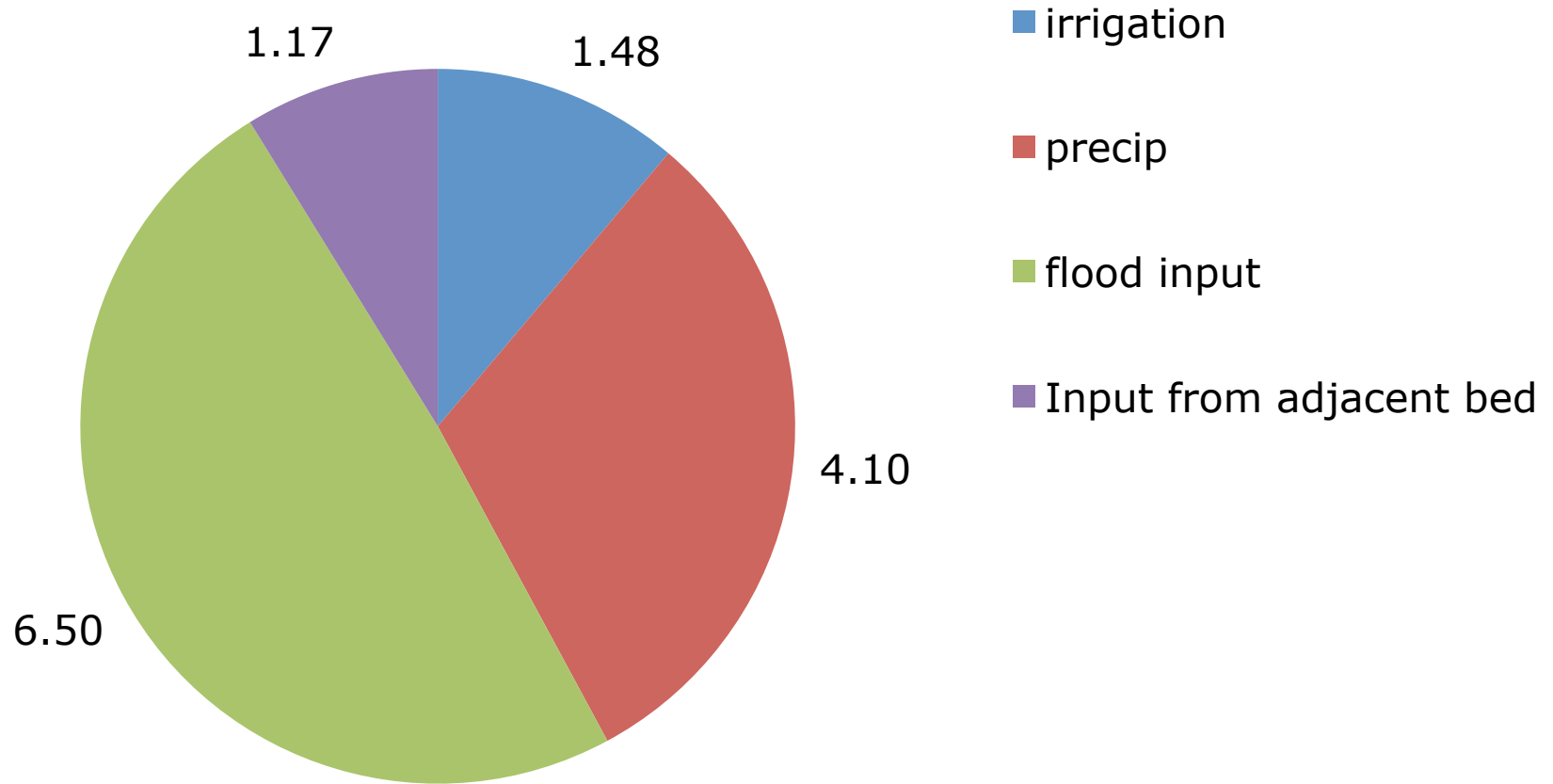
Case study – the work of graduate student Nick Alverson



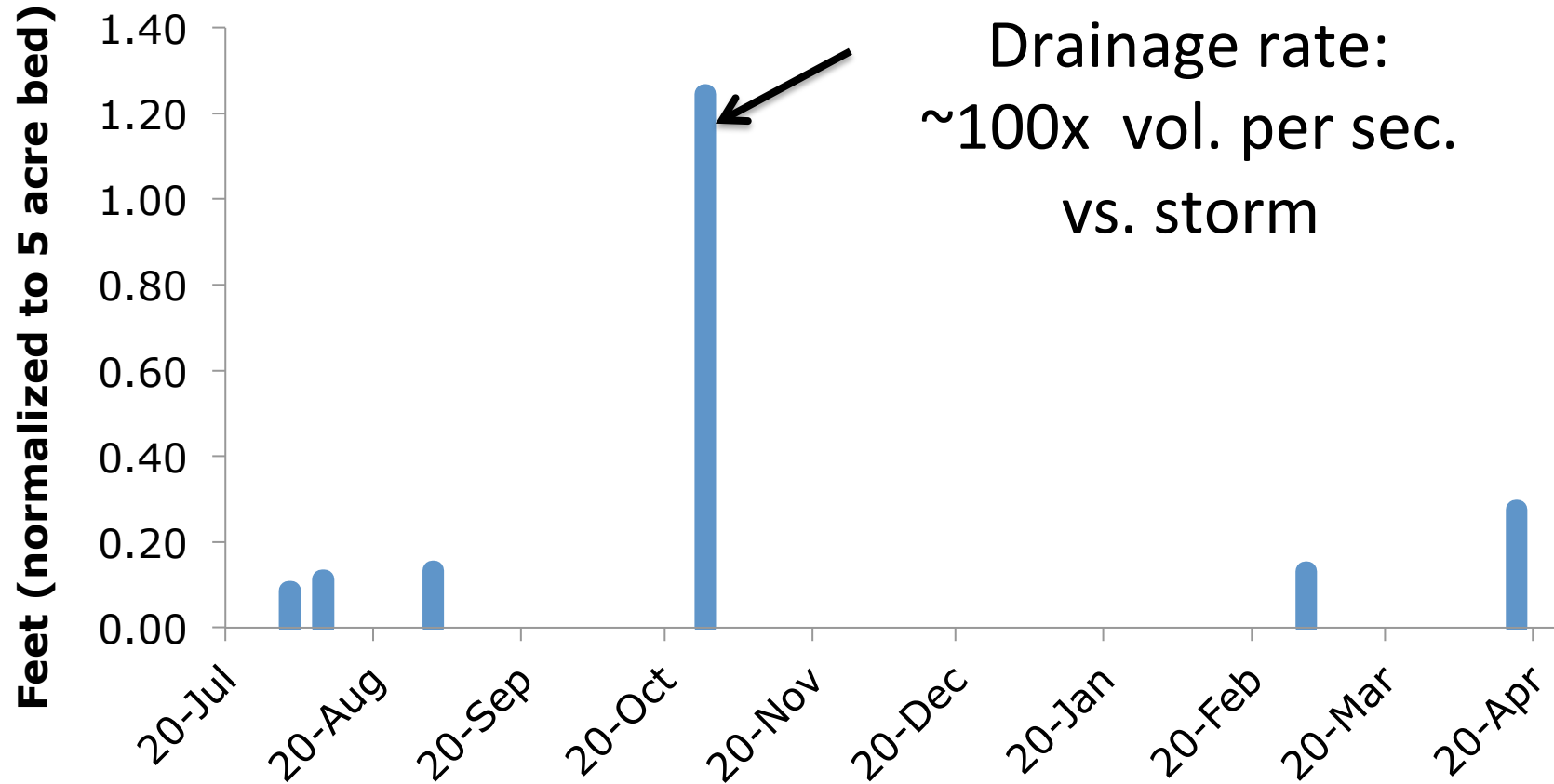
Depth: 18 in. sloping to
2 ft.

Width: 25 ft.

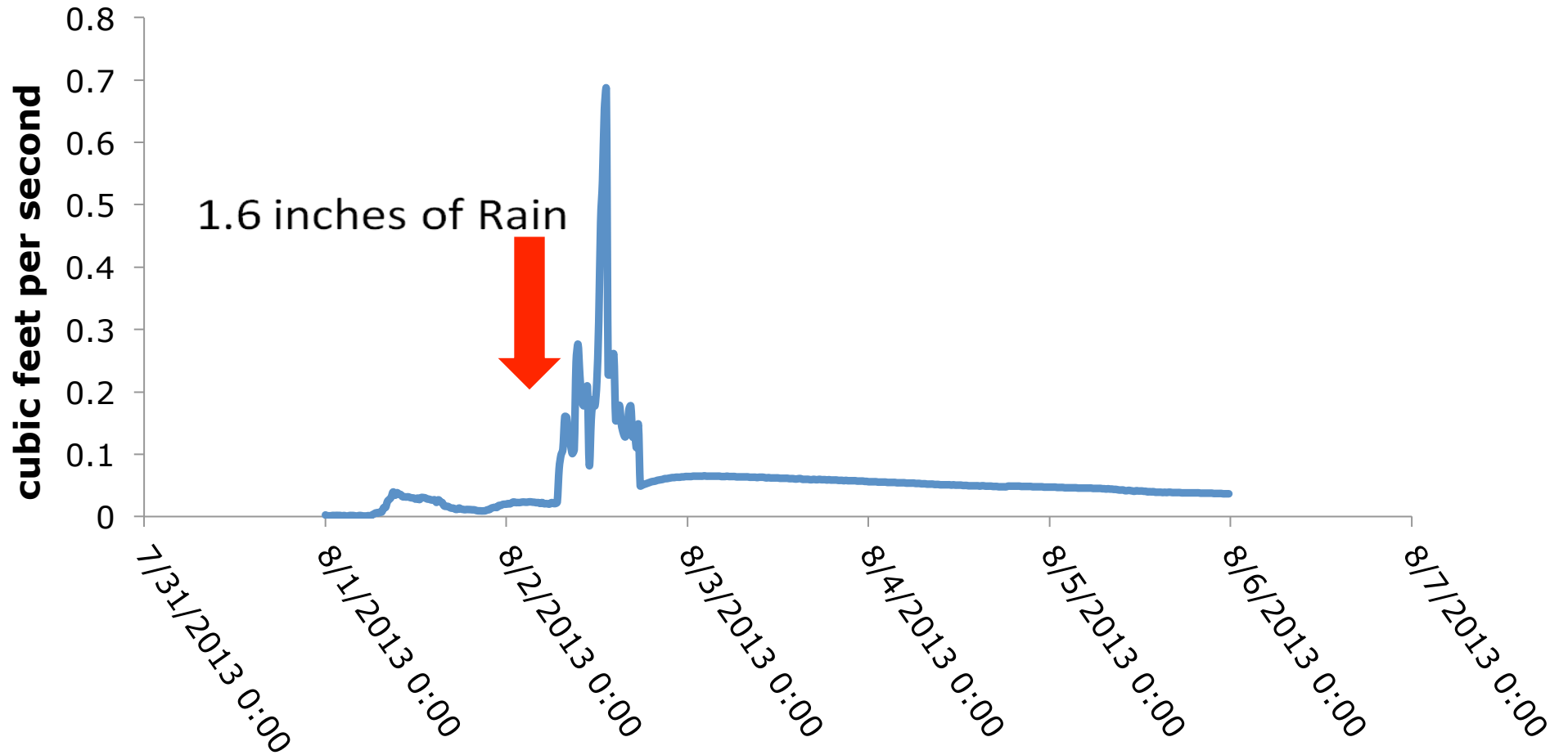
Hydrologic Inputs – inches of water



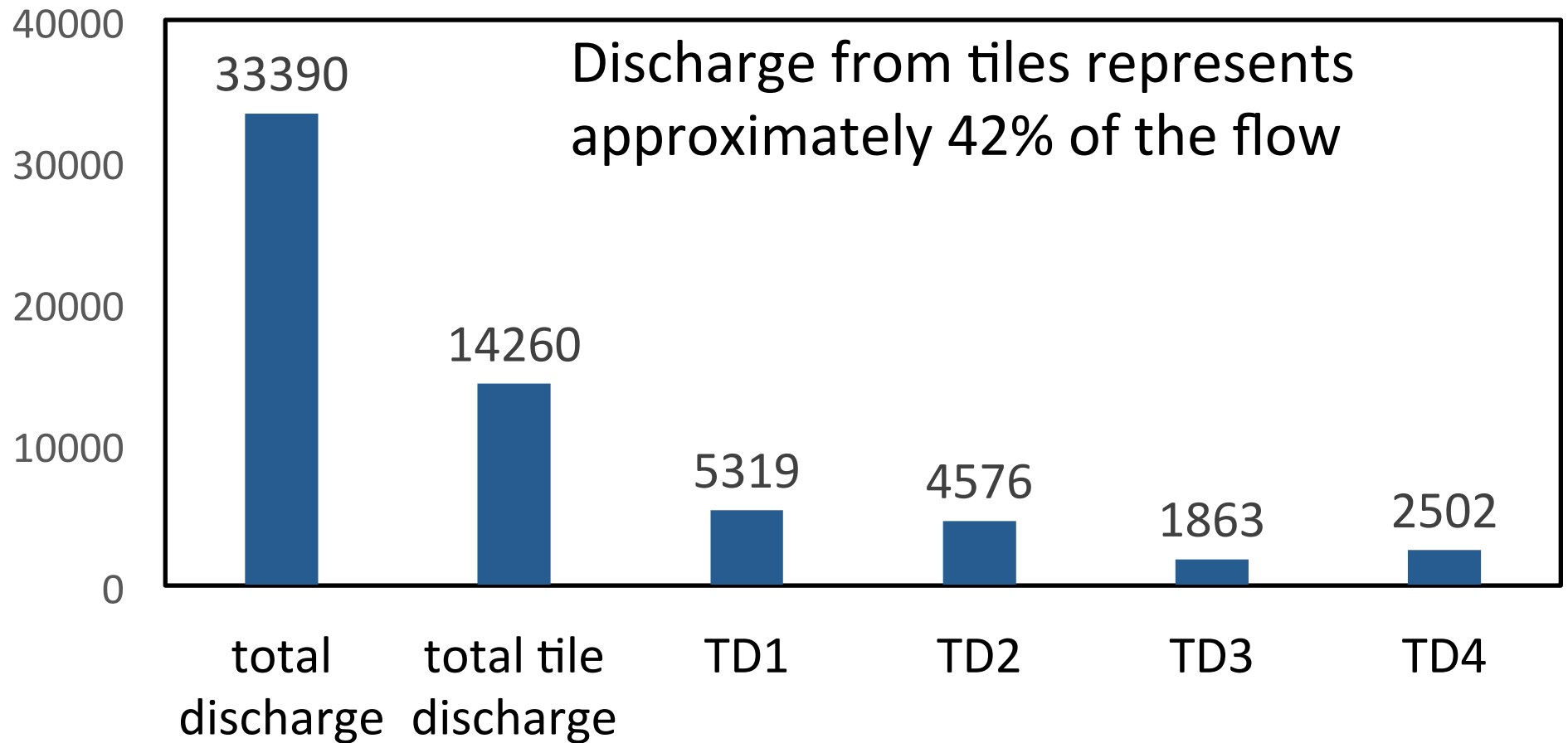
Surface Water Discharge: Storms vs. Harvest Flood



August Storm Event - Flow



Total Discharge from Bed vs Discharge from Tiles (cubic meters) 2014



Survey

- Have asked questions about your use of tiles
- Today's survey will be used to provide the 'end of project' information to compare to start.
- Two more workshops in the spring – depth and installation

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