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Tile Drainage in Massachusetts Cranberry Production

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Tile drainage in Massachusetts cranberry production

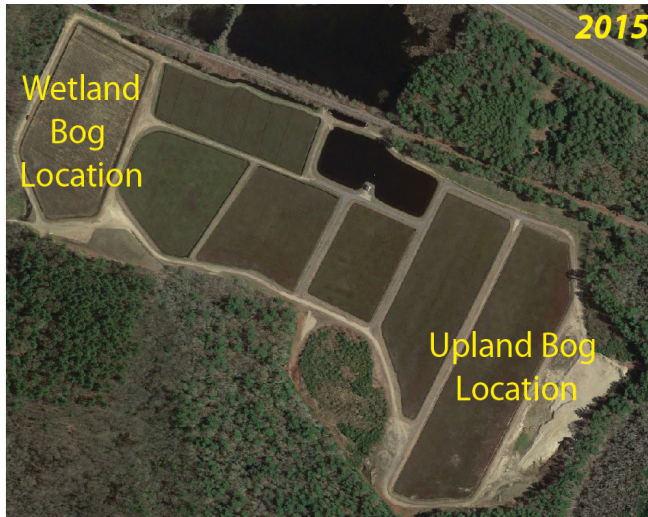
Carolyn DeMoranville, Peter Jeranyama,
Casey Kennedy, and Nick Alverson

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

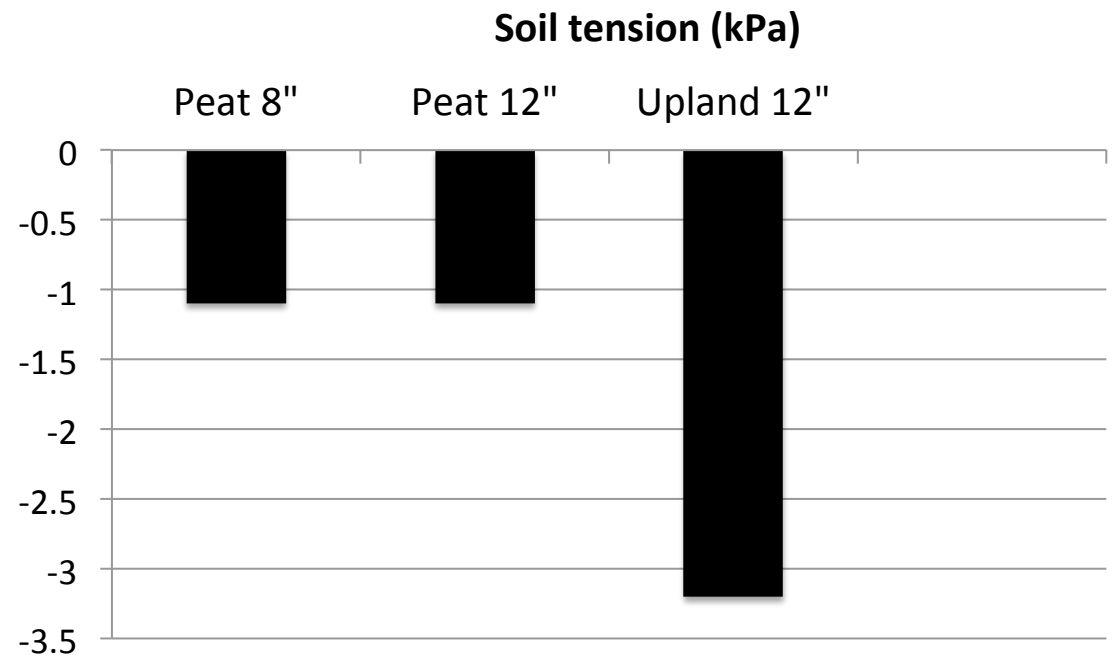


Tile Drainage Study - spacing

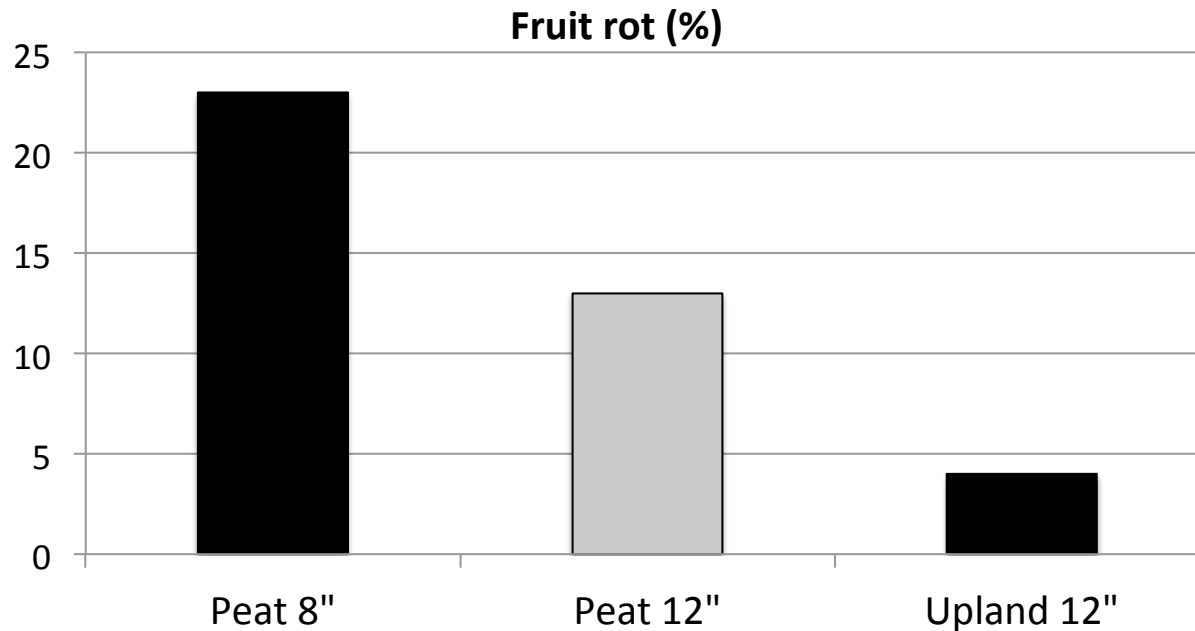
Tile Spacing, feet	# of vegetative uprights ft ⁻²	# of upright with 1 berry ft ⁻²	# of uprights ≥ 1 berry ft ⁻²	Yield (BBL)
15	36	7	20	270
20	50	11	28	339
25	55	12	24	307
<u>Contrasts</u>				
15 vs. 20	NS	**	*	*
15 vs. 25	*	**	NS	NS
20 vs. 25	NS	NS	NS	NS



Tile depth study

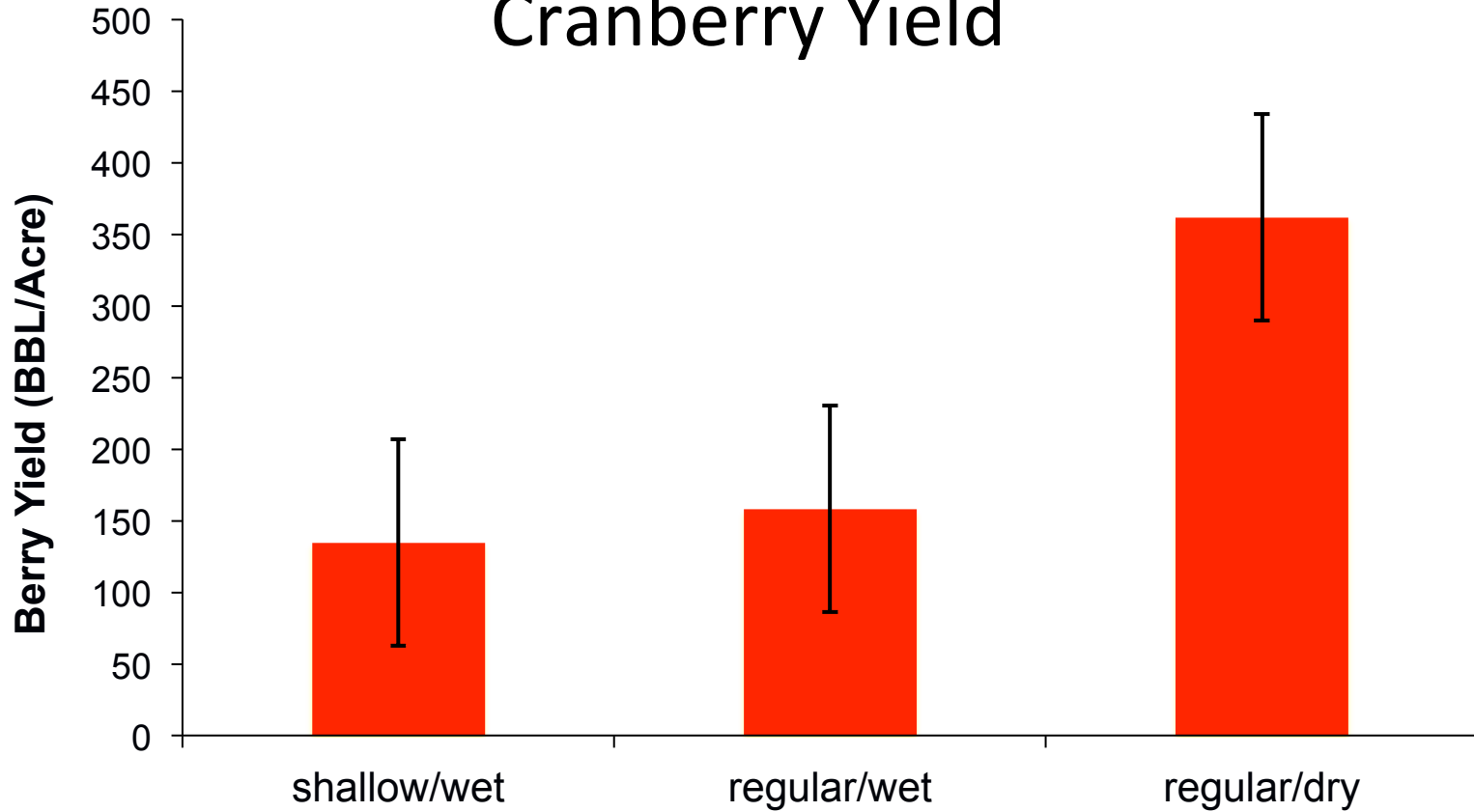


Tile depth/drainage – Fruit Rot

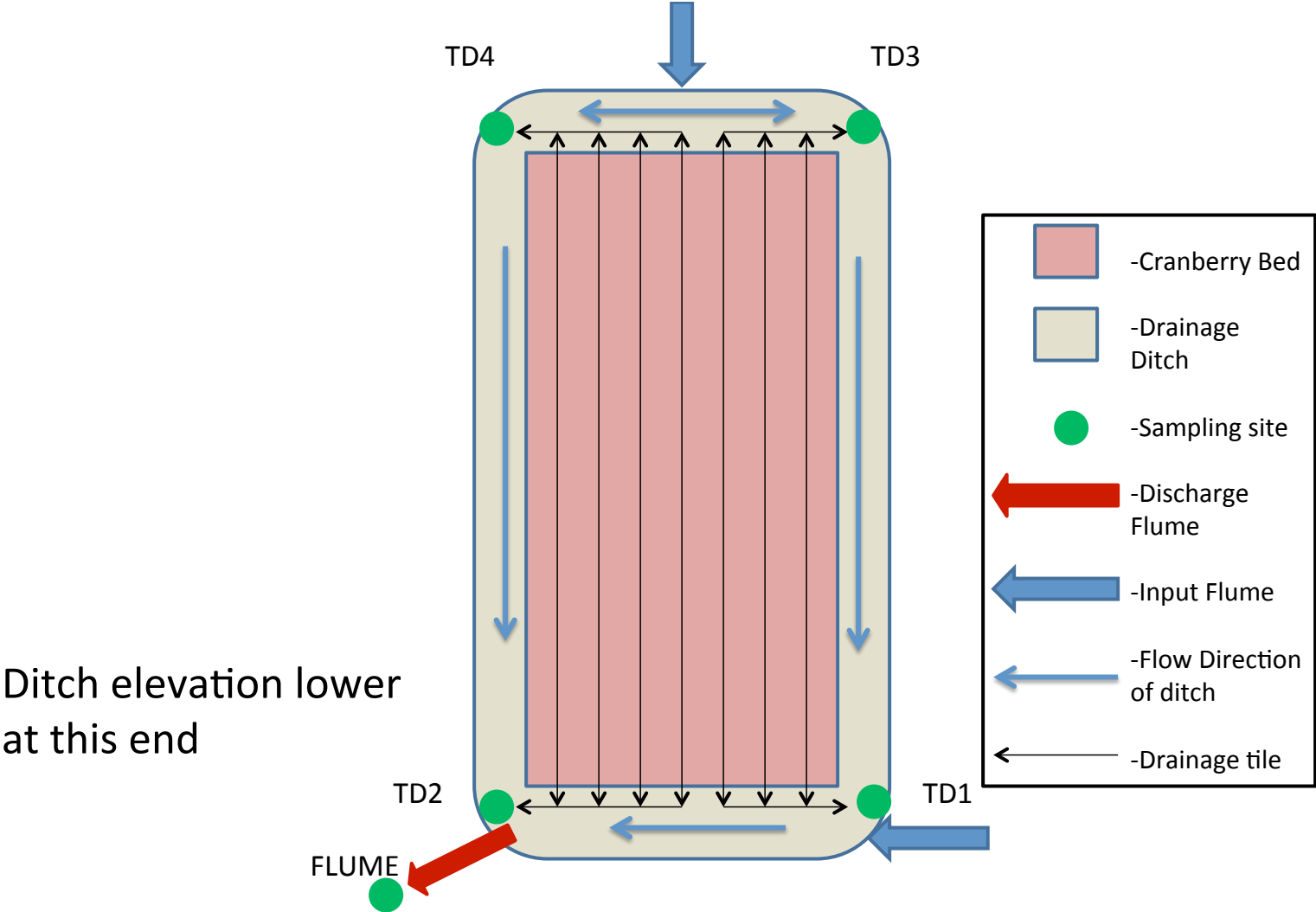


Depth
matters but
so does
subsoil base

Soil Tension and Tile Drainage Depth Effects on Cranberry Yield



Tile drain function



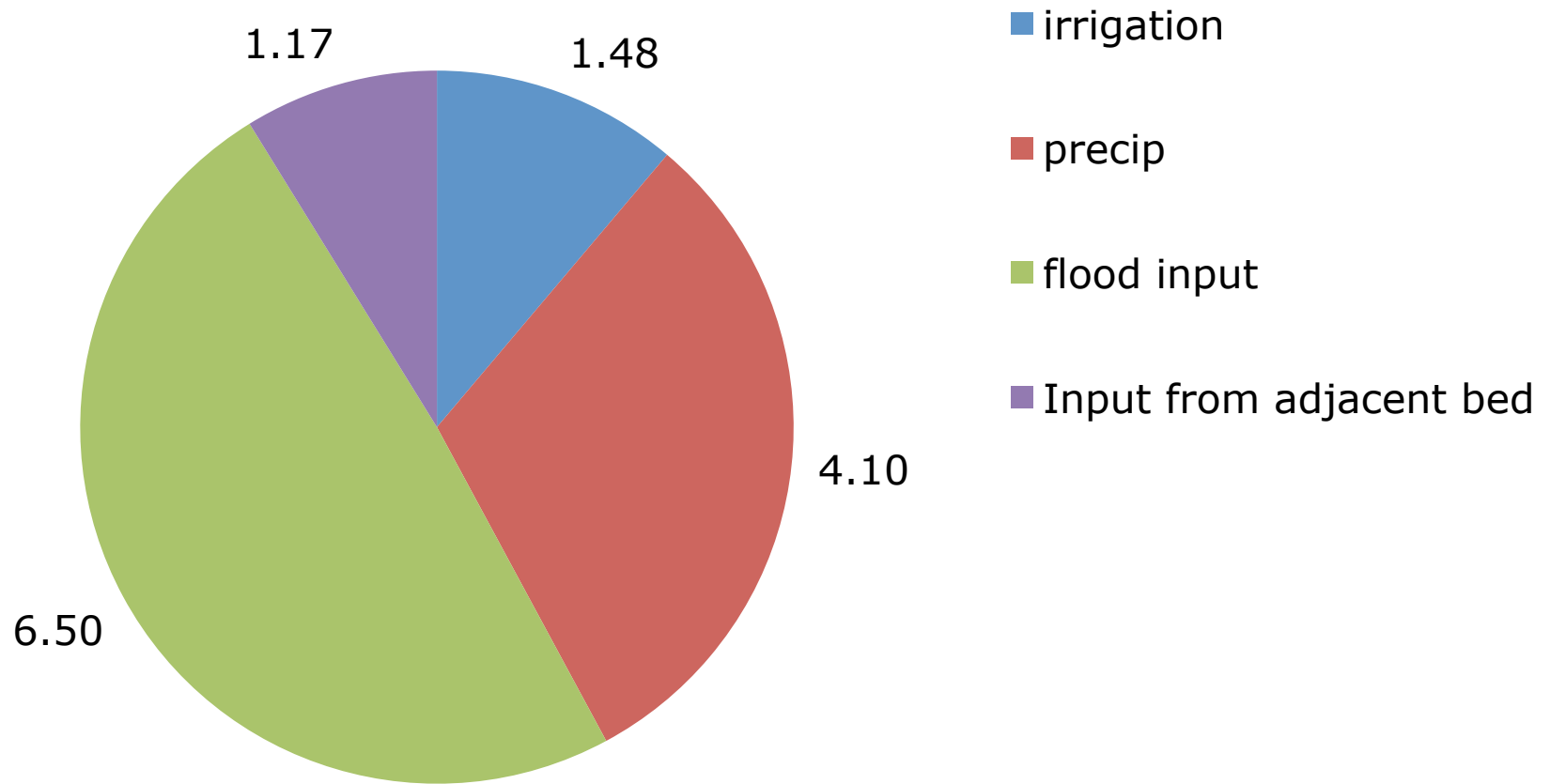
Case study – the work of graduate student Nick Alverson



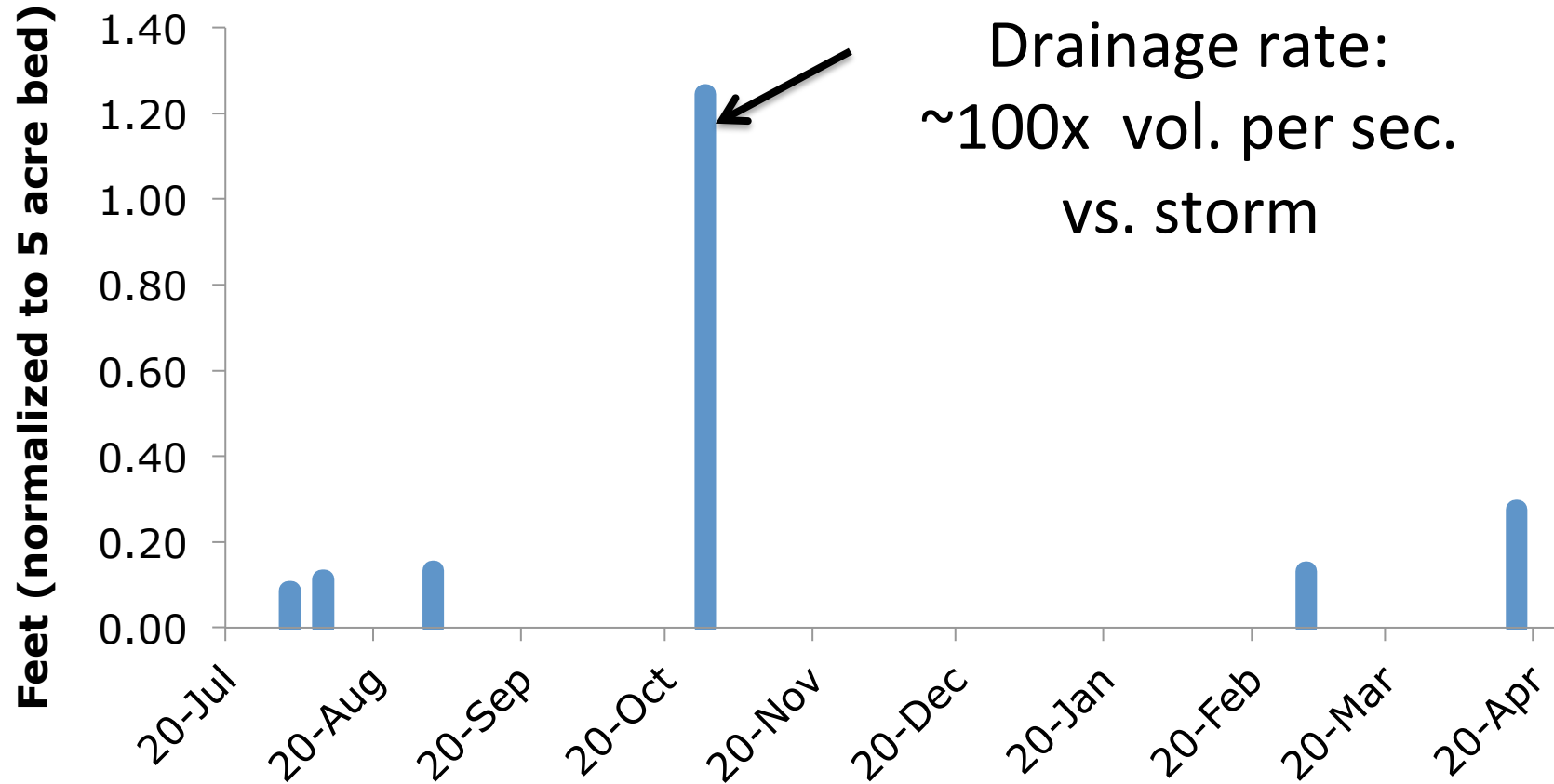
Depth: 18 in. sloping to
2 ft.

Width: 25 ft.

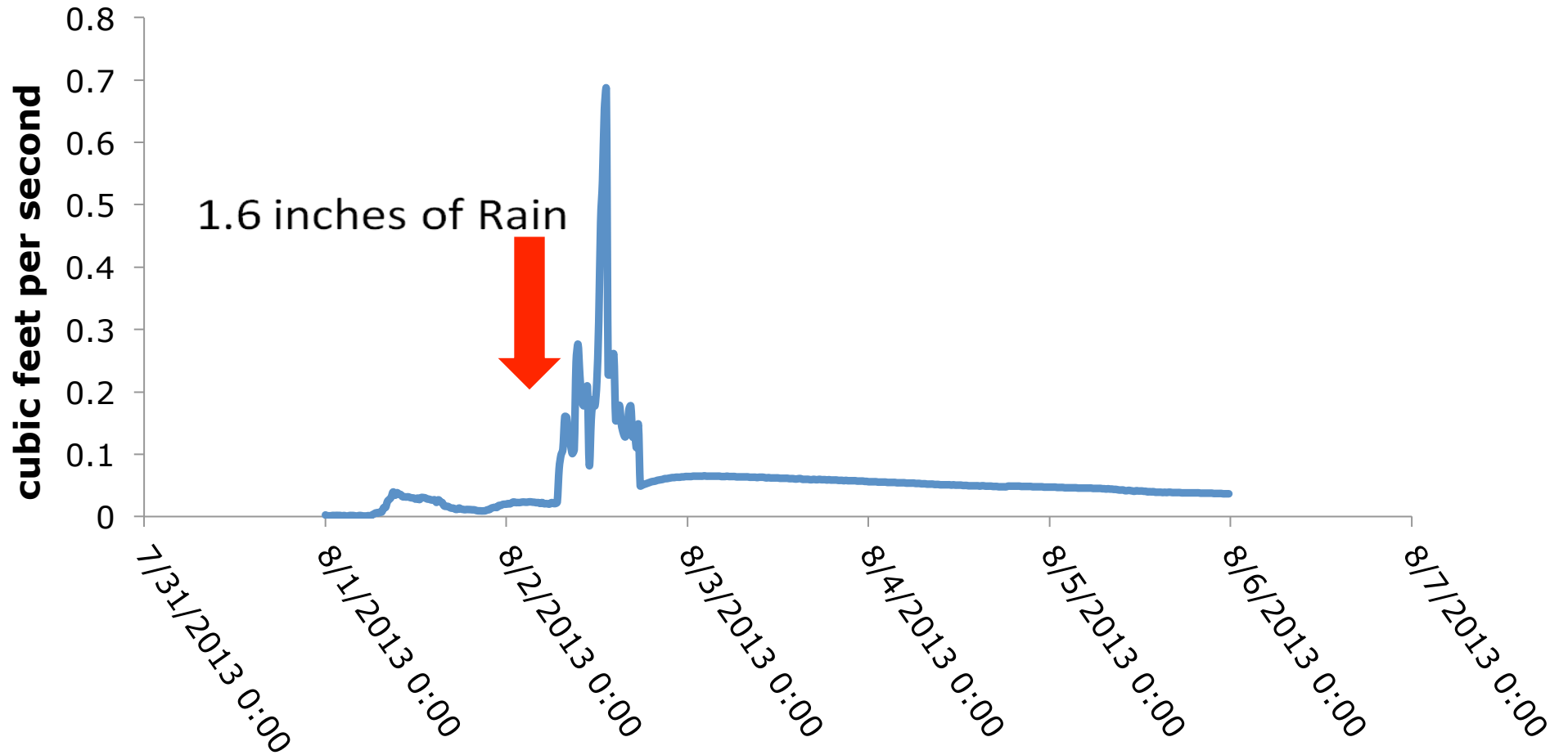
Hydrologic Inputs – inches of water



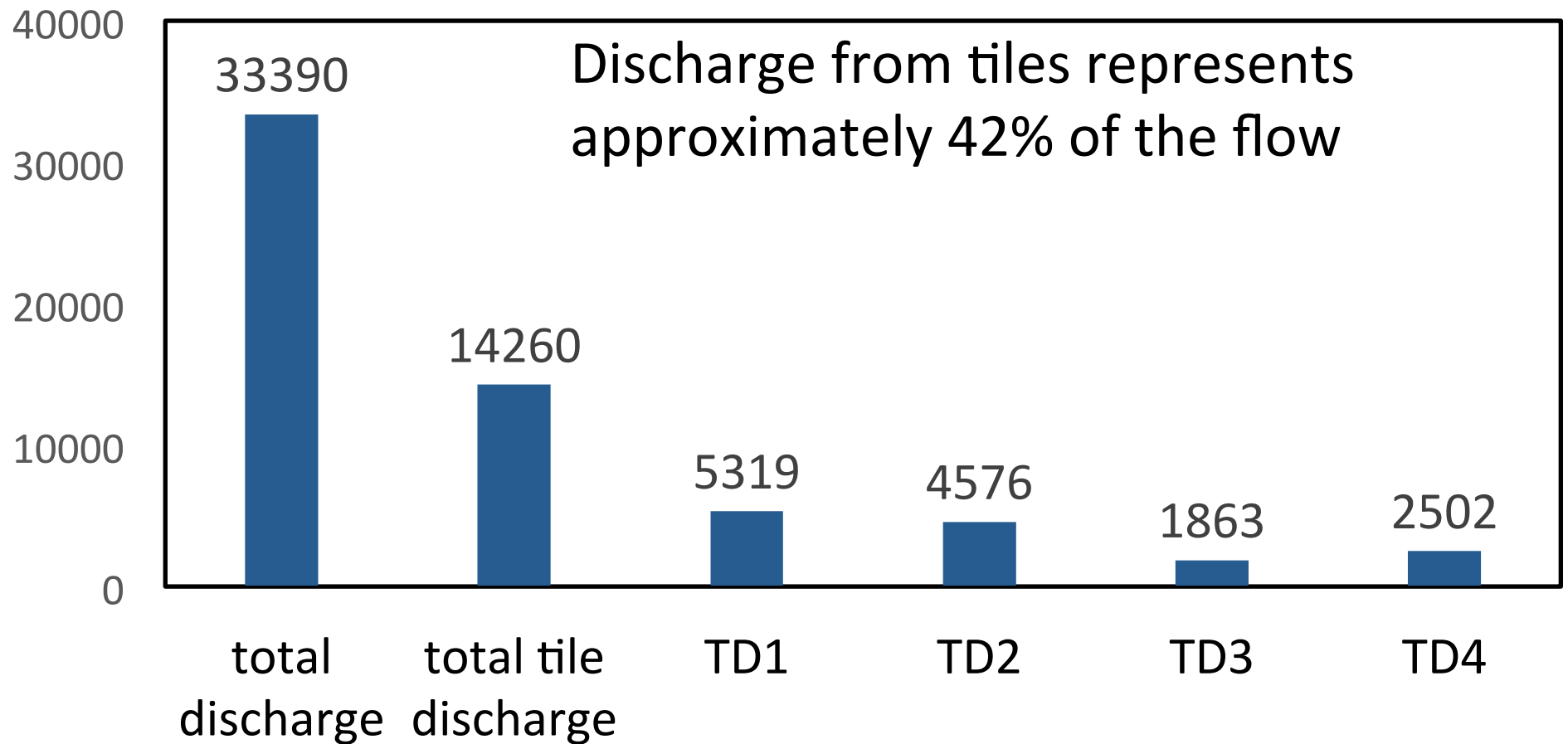
Surface Water Discharge: Storms vs. Harvest Flood



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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