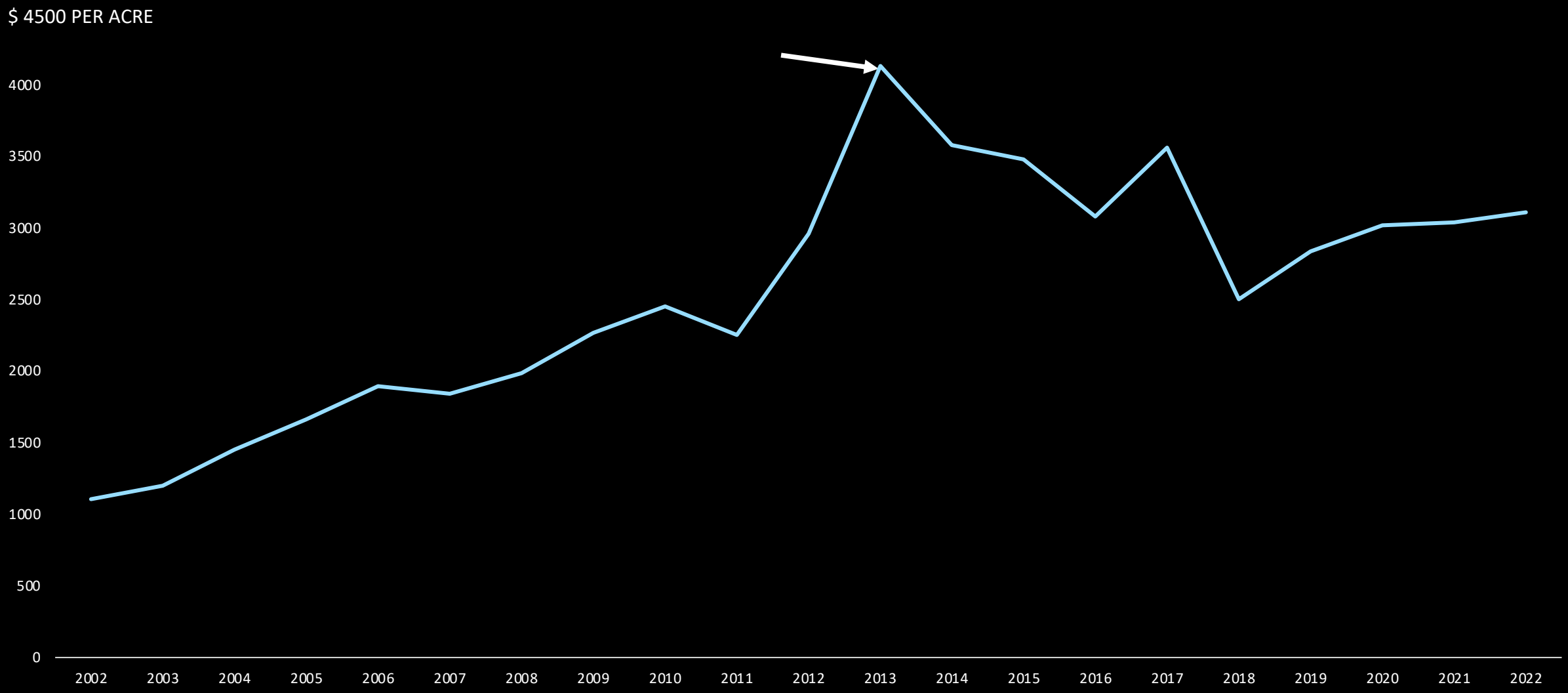
BARRON COUNTY, WI FARMLAND VALUE

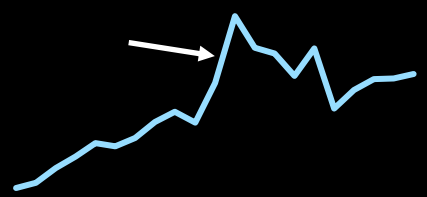
2002-2022

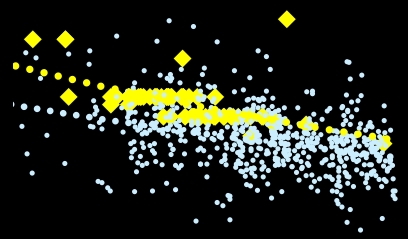


Source: USDA NASS, as of September 2022

FARMLAND LIFECYCLE: COMPONENTS OF RETURNS

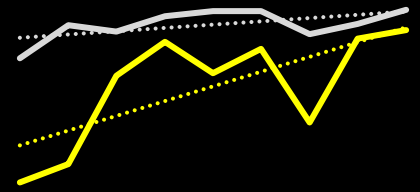
Entry cost



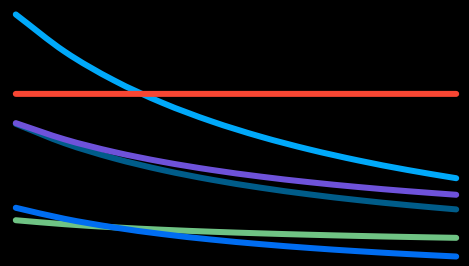


Entry cap rate

Income

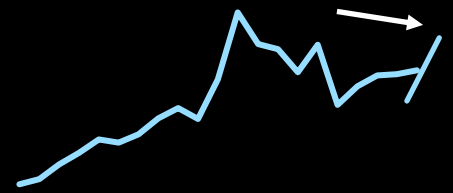


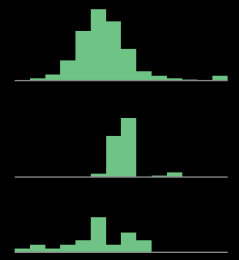
Crop yield change



Crop costs

Exit price

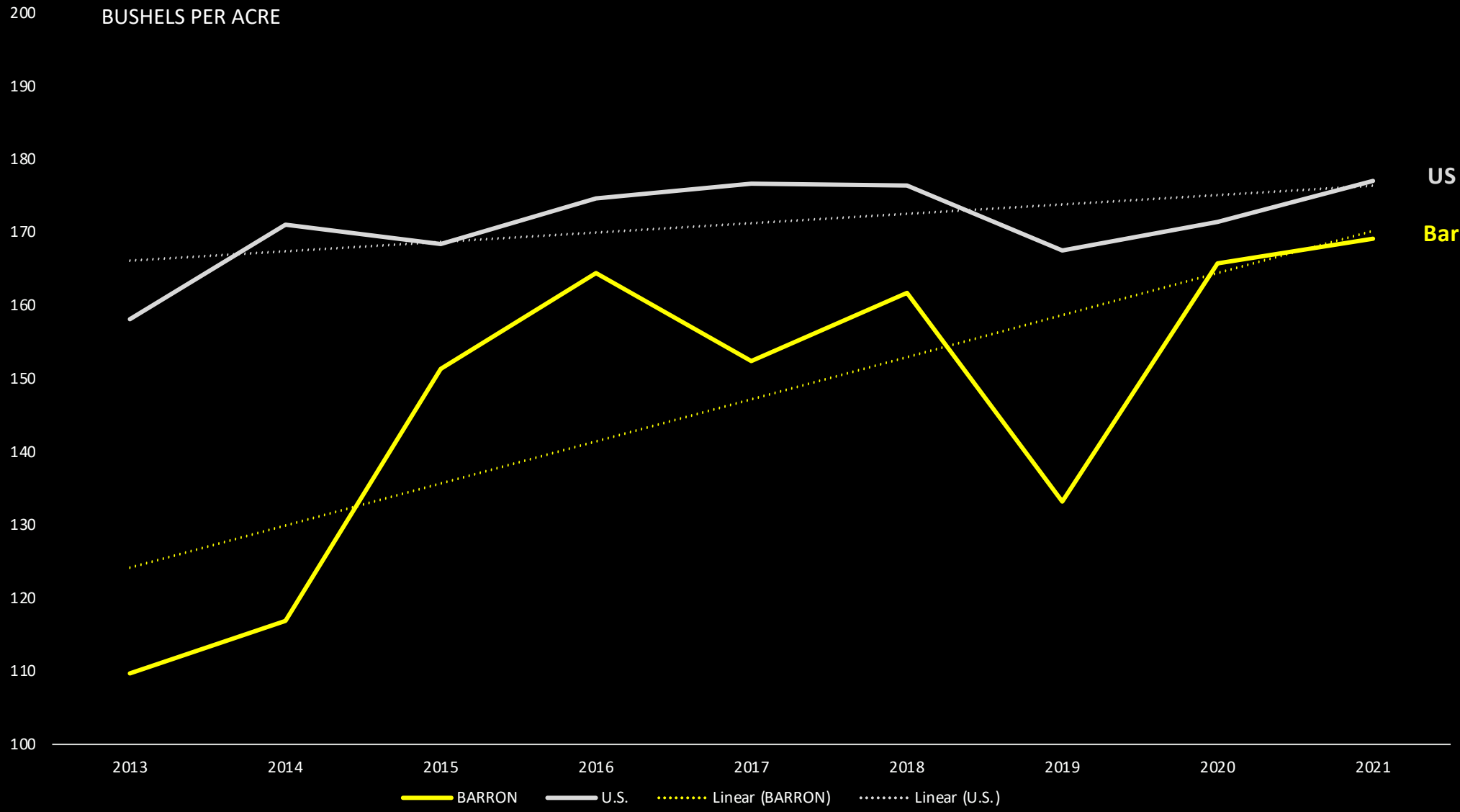




Exit cap rate

BARRON CORN YIELD GROWTH 4X FASTER THAN U.S.

SINCE FIRST FLC ACQUISITION (2013-2021)



Yield Growth

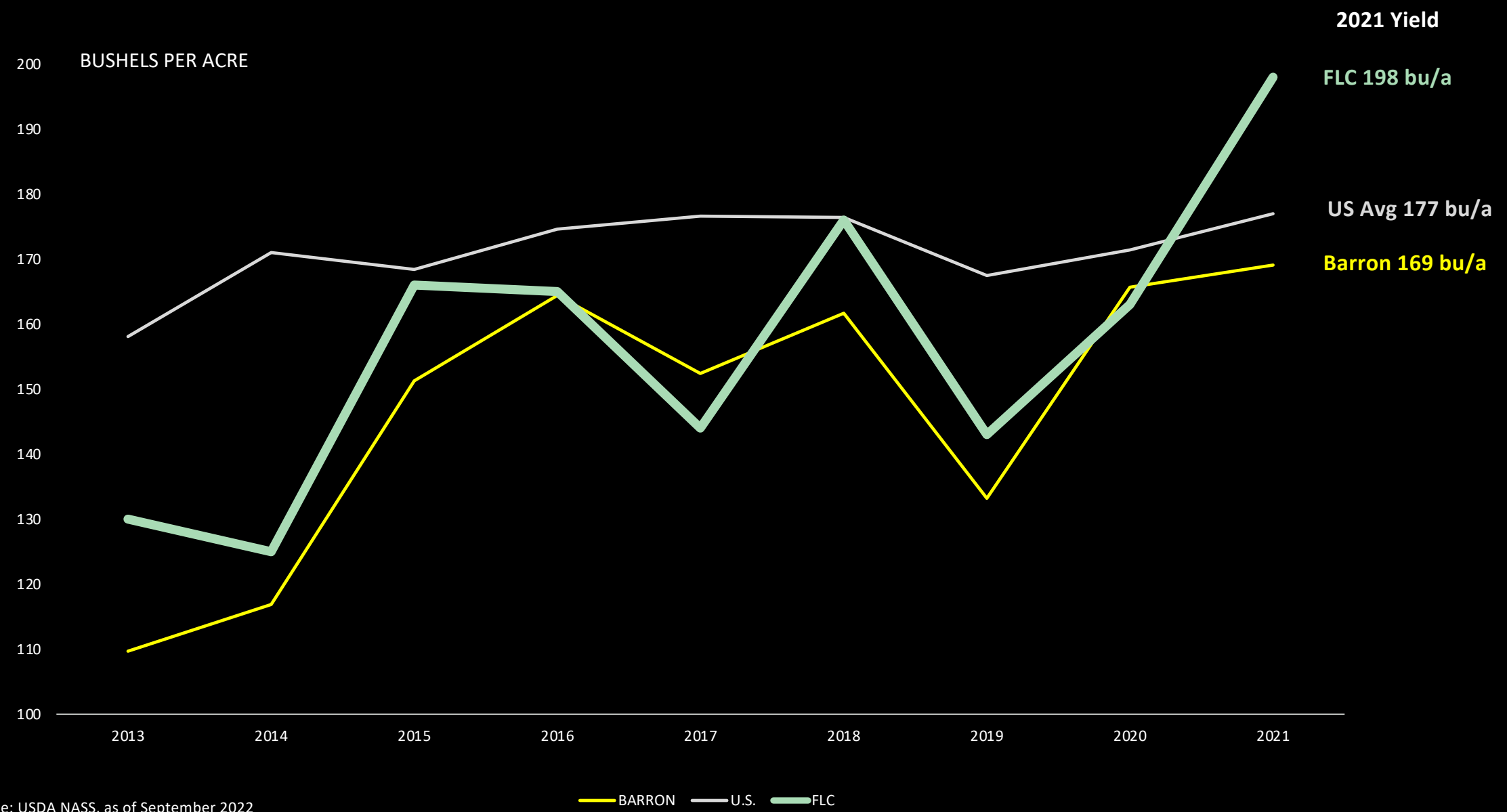
US Avg: 1.3 bu/ac/yr

Barron: 5.8 bu/ac/yr

Source: USDA NASS, as of September 2022

FLC YIELDS IN BARRON PASSED NATIONAL AVERAGE IN 2021

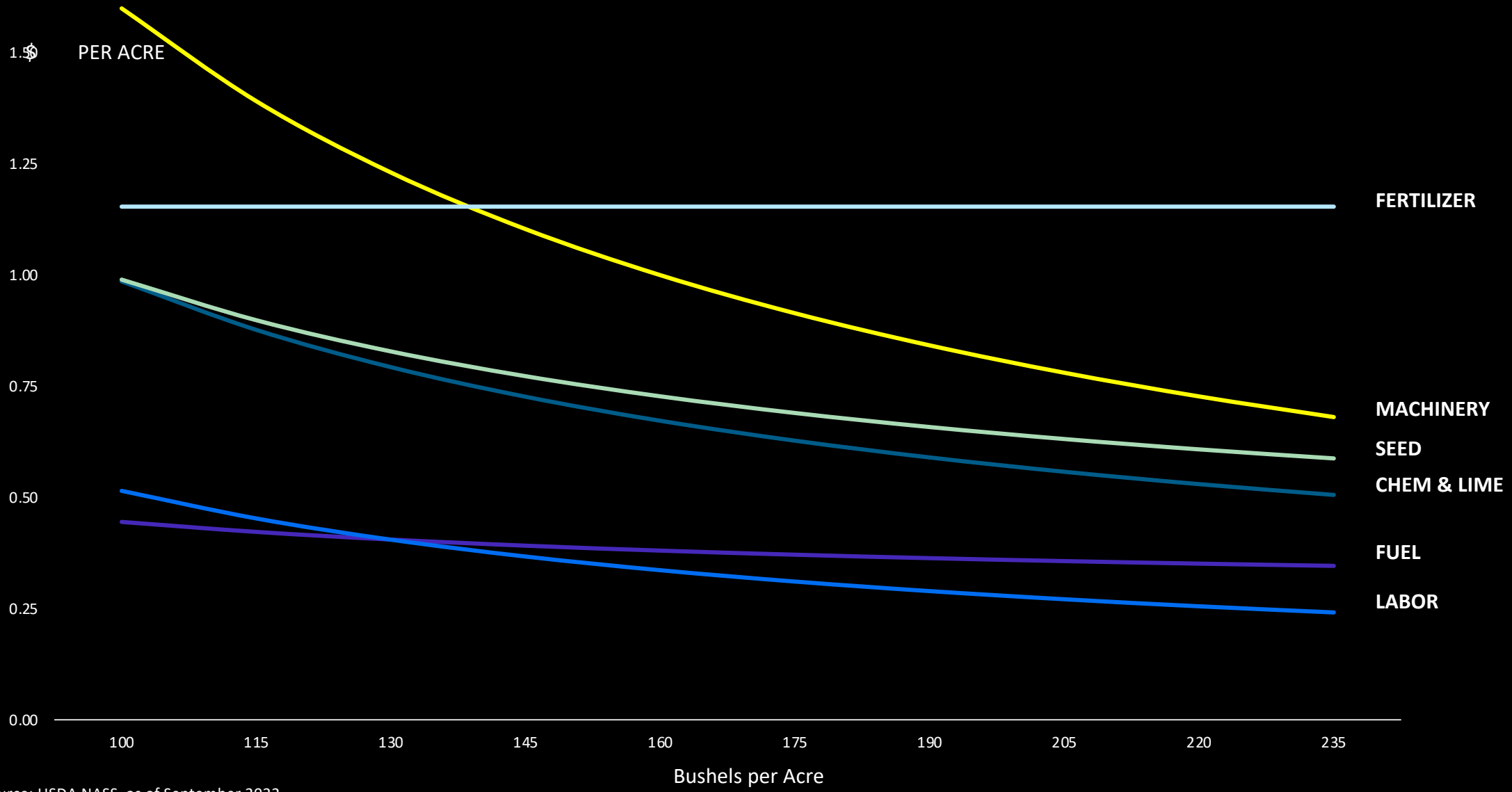
CORN YIELD SINCE FIRST FLC ACQUISITION (2013-2021)



Source: USDA NASS, as of September 2022

FERTILIZER COST FIXED TO YIELD; OTHER COSTS TO AREA

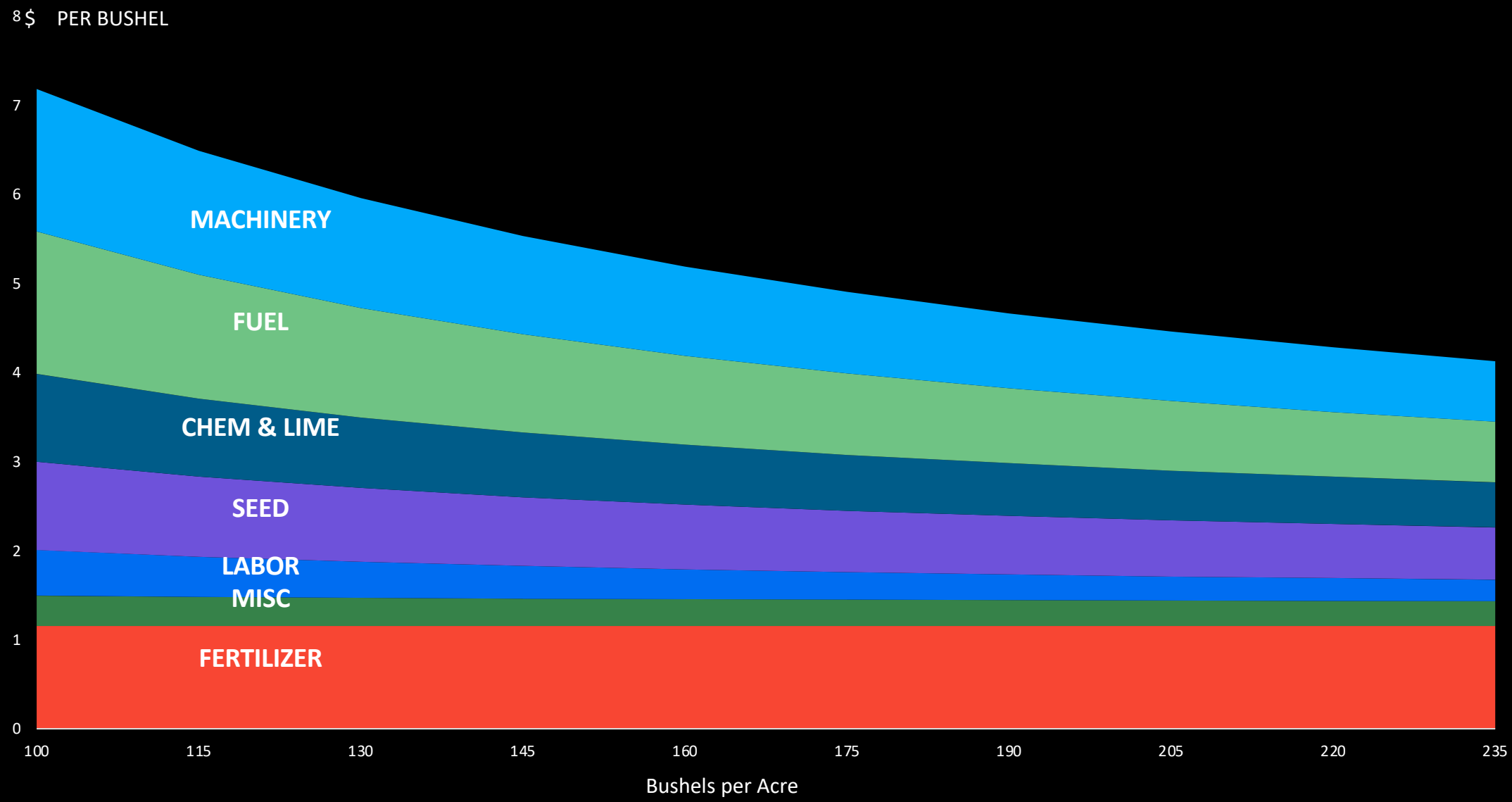
2023 PROJECTED NORTHERN U.S. CORN COSTS PER BUSHEL VS CORN YIELD



Source: USDA NASS, as of September 2022

STACKED CORN PRODUCTION COSTS PER BUSHEL

WITH INCREASED YIELD, COSTS PER BUSHEL DECLINE DUE TO COSTS FIXED PER AREA



Source: USDA NASS, as of September 2022

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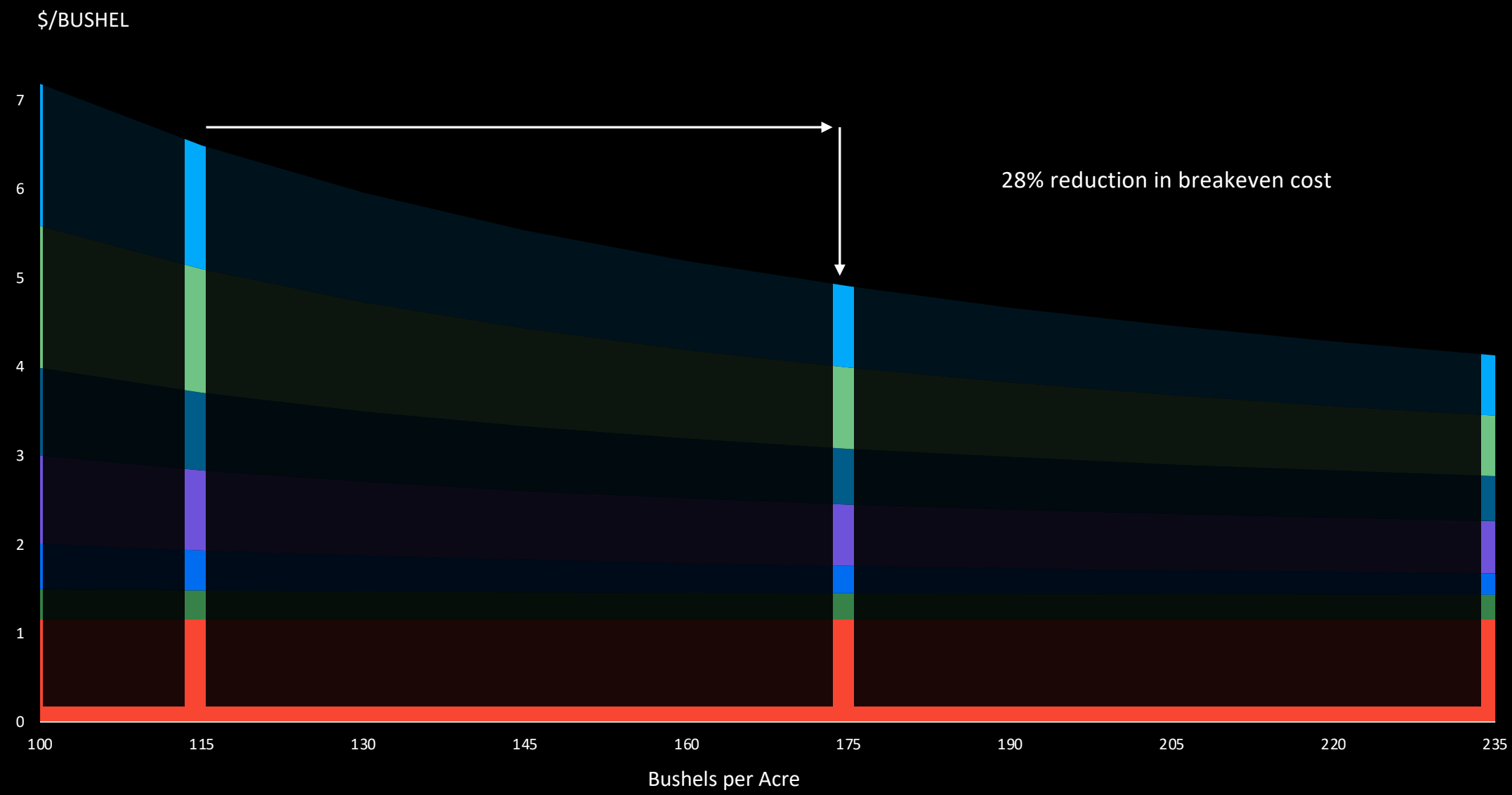
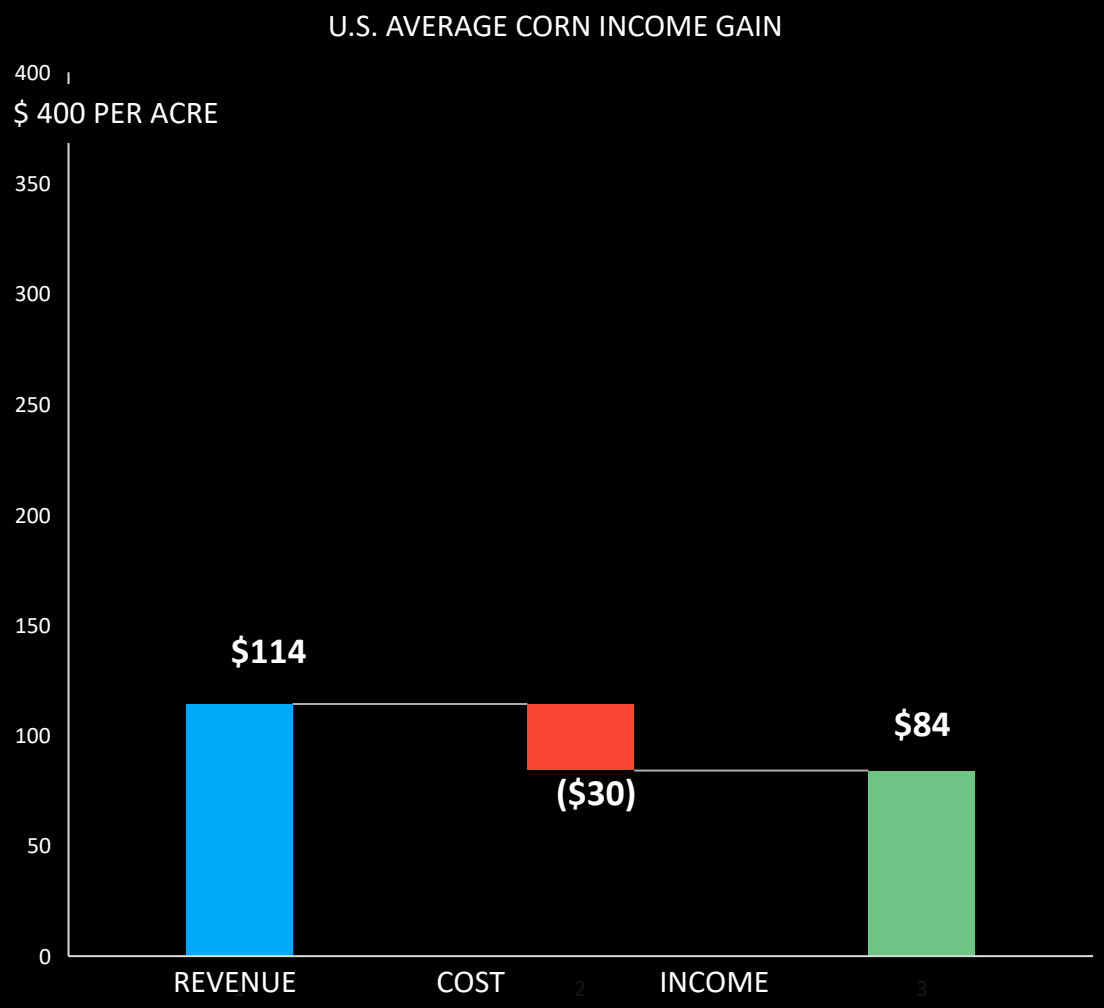
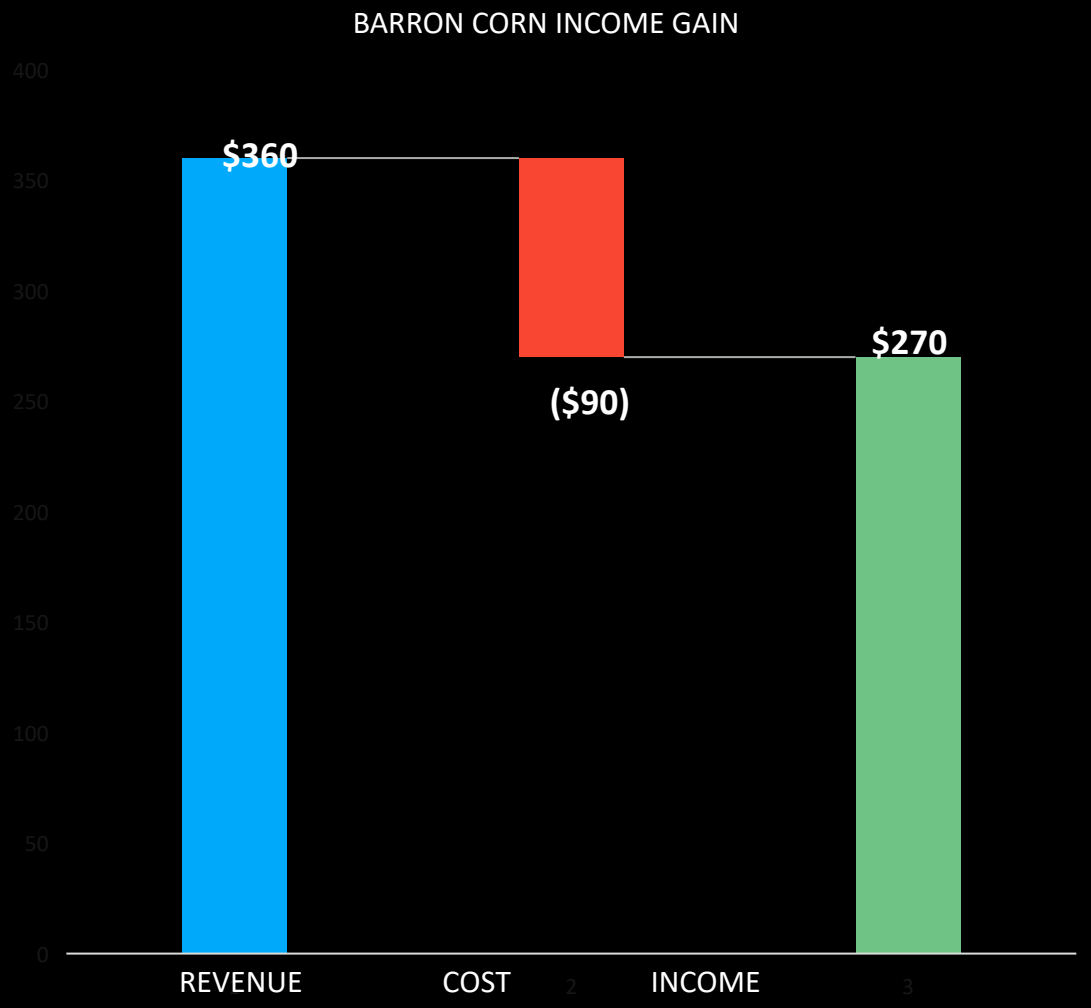


Source: USDA NASS, as of September 2022

BARRON INCOME INCREASED 3X MORE THAN U.S. AVERAGE

INCREMENTAL CORN INCOME SINCE 2013[1]

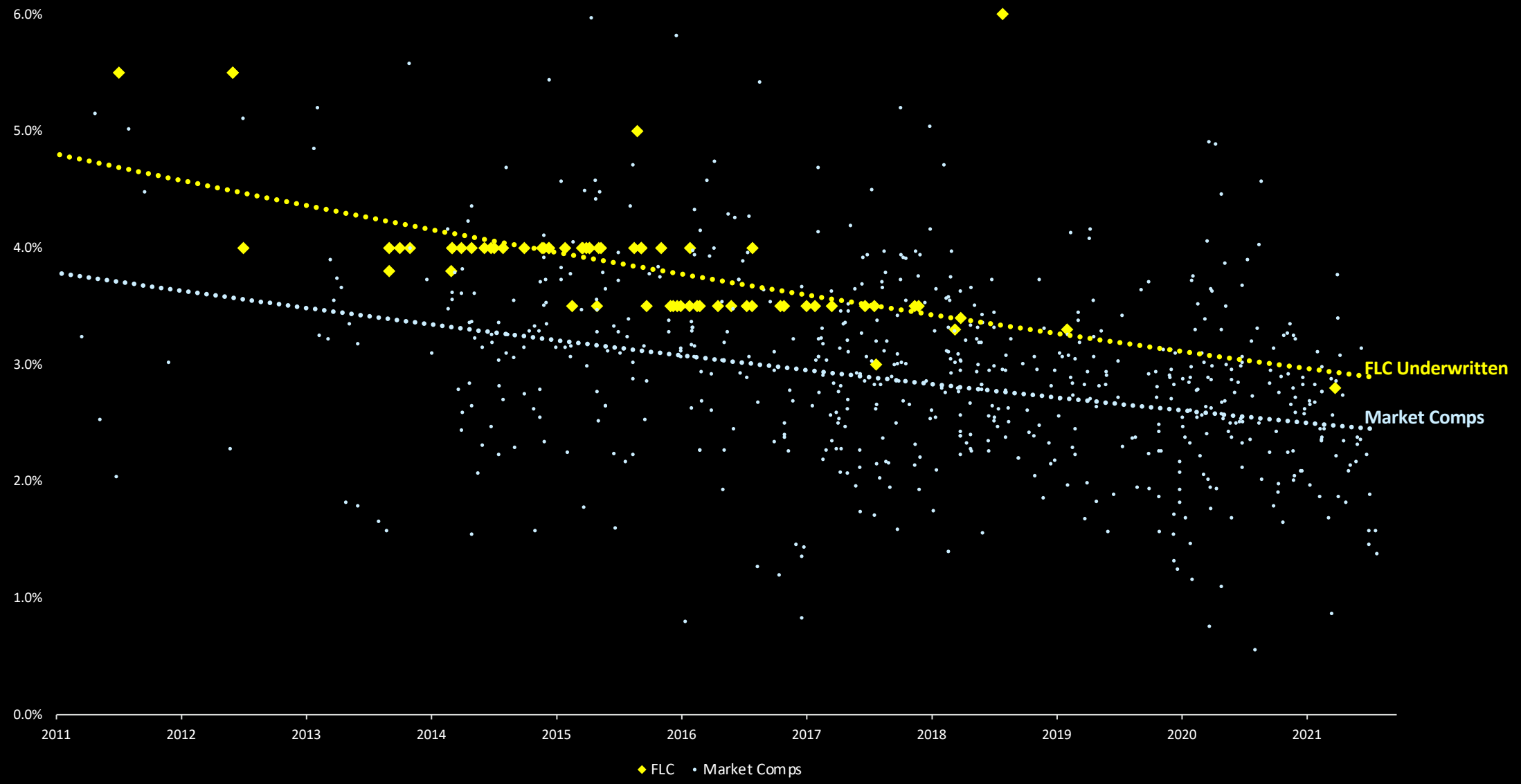




Source: USDA NASS, as of September 2022

[1]Based on current crop and input prices

EXIT CAP RATES: FLC UNDERWRITTEN VS MARKET COMPARABLES



WHAT WE THOUGHT WE KNEW

It is always wet under the film. Within minutes of applying the film, it starts raining inside.

It is like a sauna, hot and wet. Every seed grows. The corn can be in an open trench.

OOPS

In Michelson upon our midnight arrival we saw what looked like a bad stand. In the daylight we realized that while the corn mostly looked great, there were areas that were not germinating because they were bone dry.

Those areas were patchy and depended heavily on the inflow patterns of the irrigation water into the film.

The dry soil was very close to saturated soil, but there was little horizontal movement, and it stayed dry through multiple irrigation passes.

We saw the same thing in Washington.

What changed?

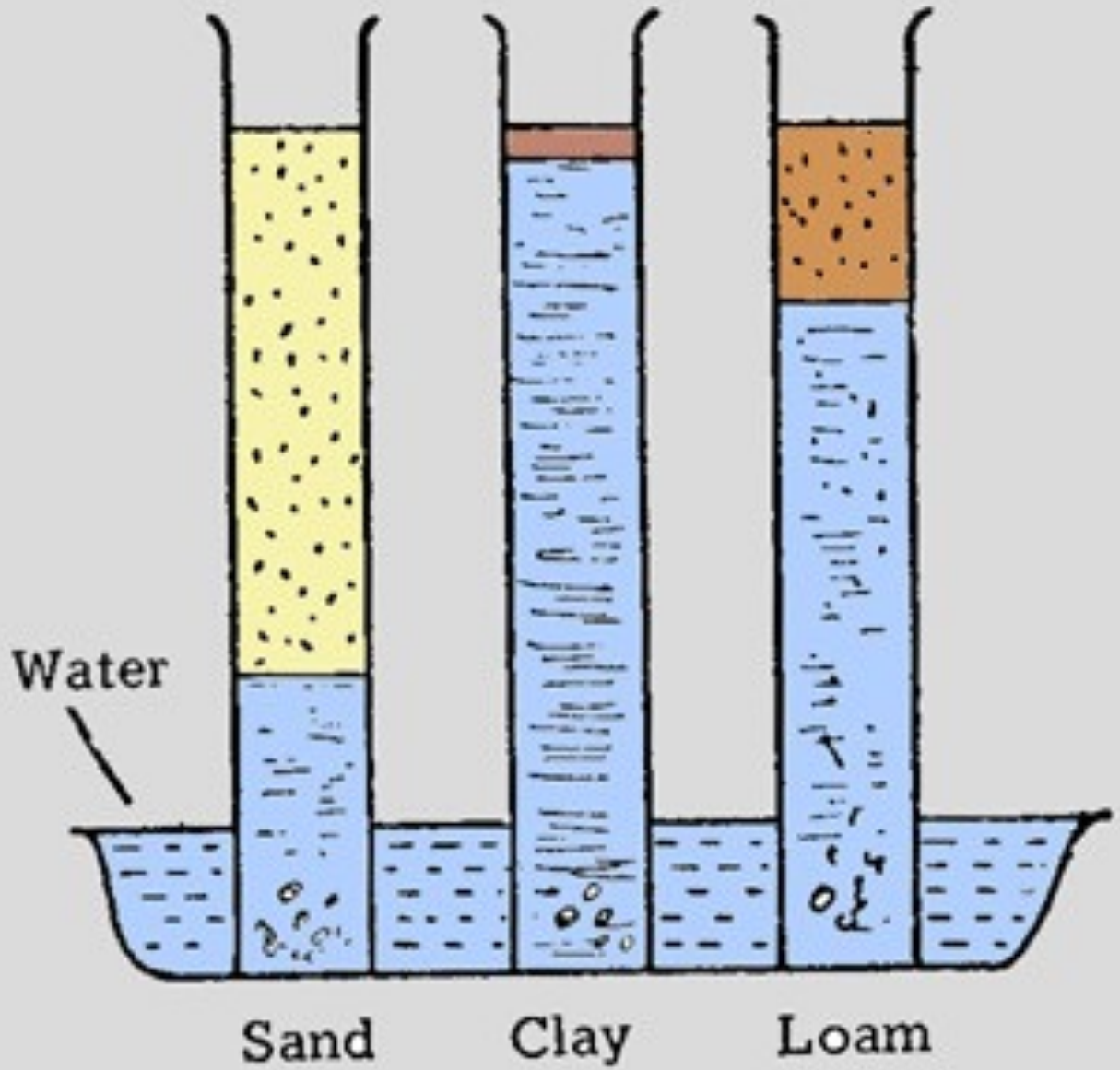
Normally capillary action brings water to the surface. That requires available water deeper in the profile, and small spore space to move it. These soils were very dry underneath, and they lacked the small clay particles and organic matter to move the water.

Solution:

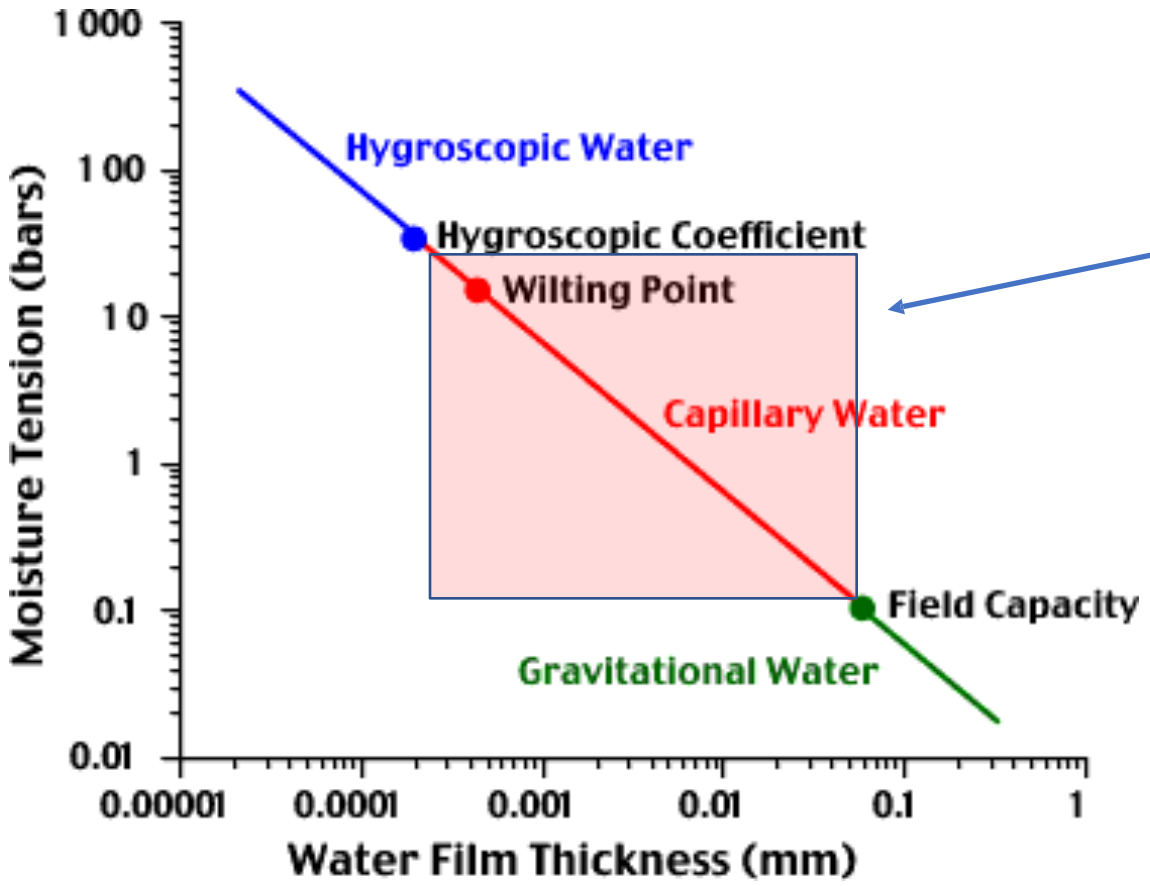
1) Manage film surface topography and film holes to control even inflow rate.
2) Pre-irrigate the land.

Be sure to understand the factors affecting capillary action.

CAPILLARY ACTION IN SOIL

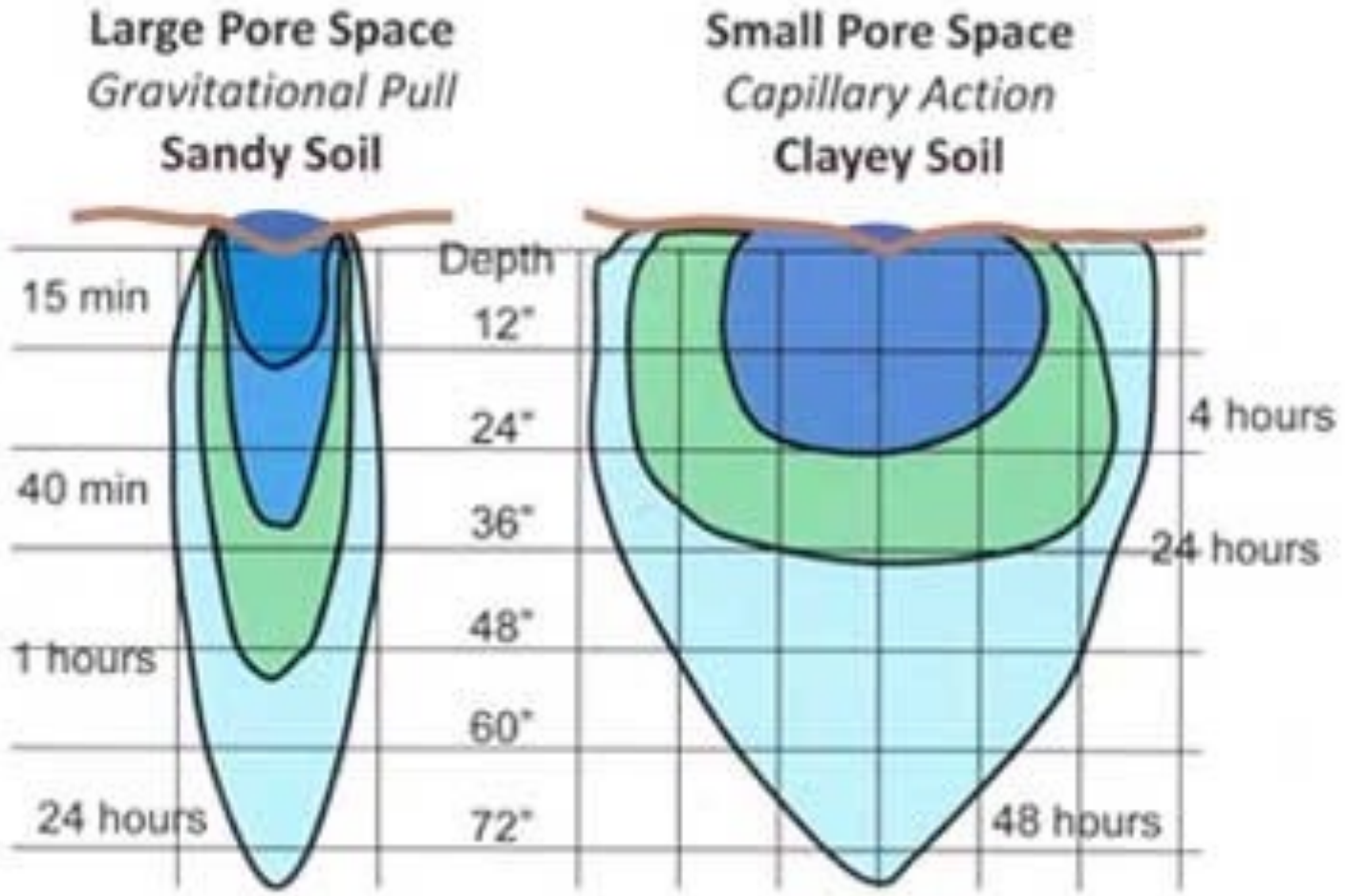


SURFACE TENSION AND WATER AVAILABILITY: >3 ORDERS OF MAGNITUDE OF TENSION AND THICKNESS

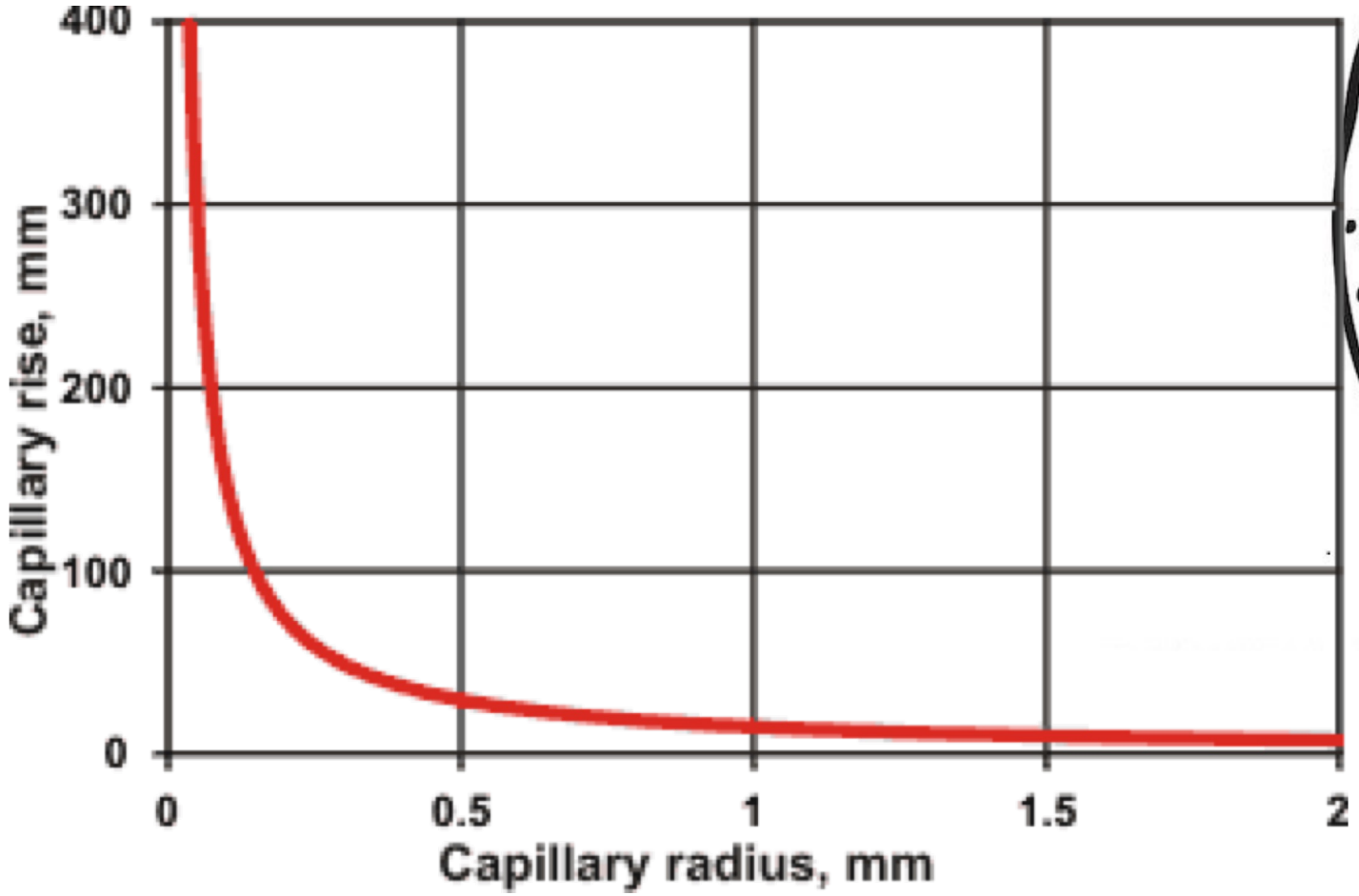


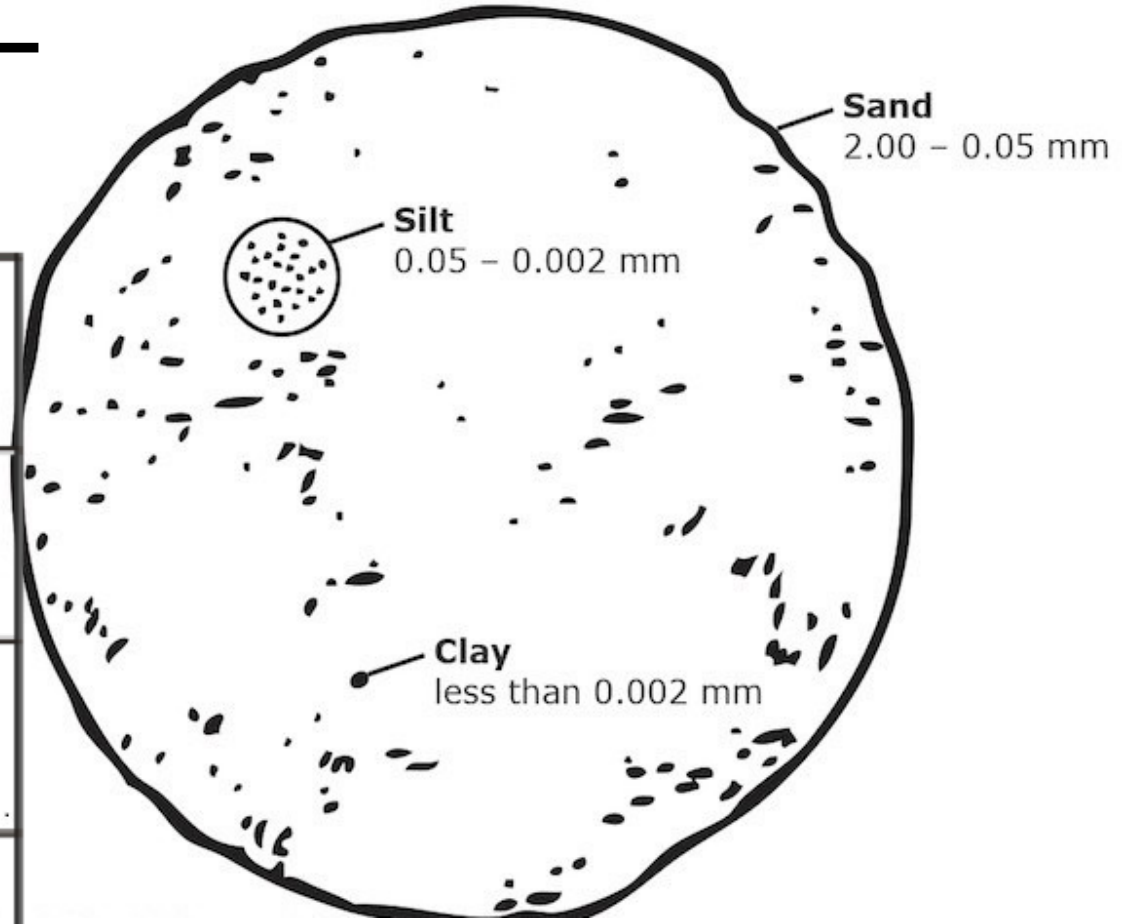
CAPILLARY WATER RELATES TO A LARGE RANGE

CAPILLARY ACTION IS LATERAL TOO



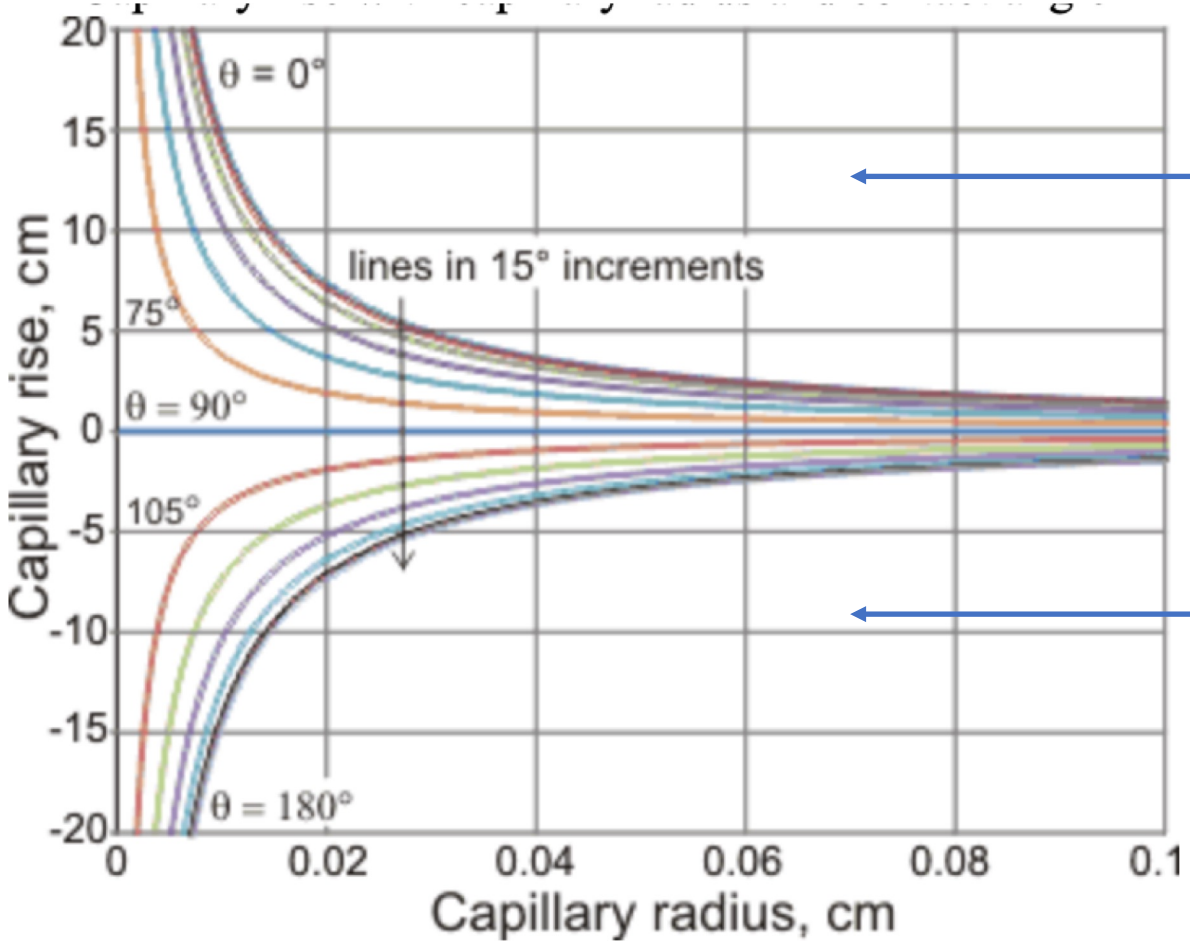
CLAY CONTENT IS CRITICAL





PORE SIZE DOMINATES MENISCUS ANGLE

BUT SIGN DOMINATES PORE SIZE

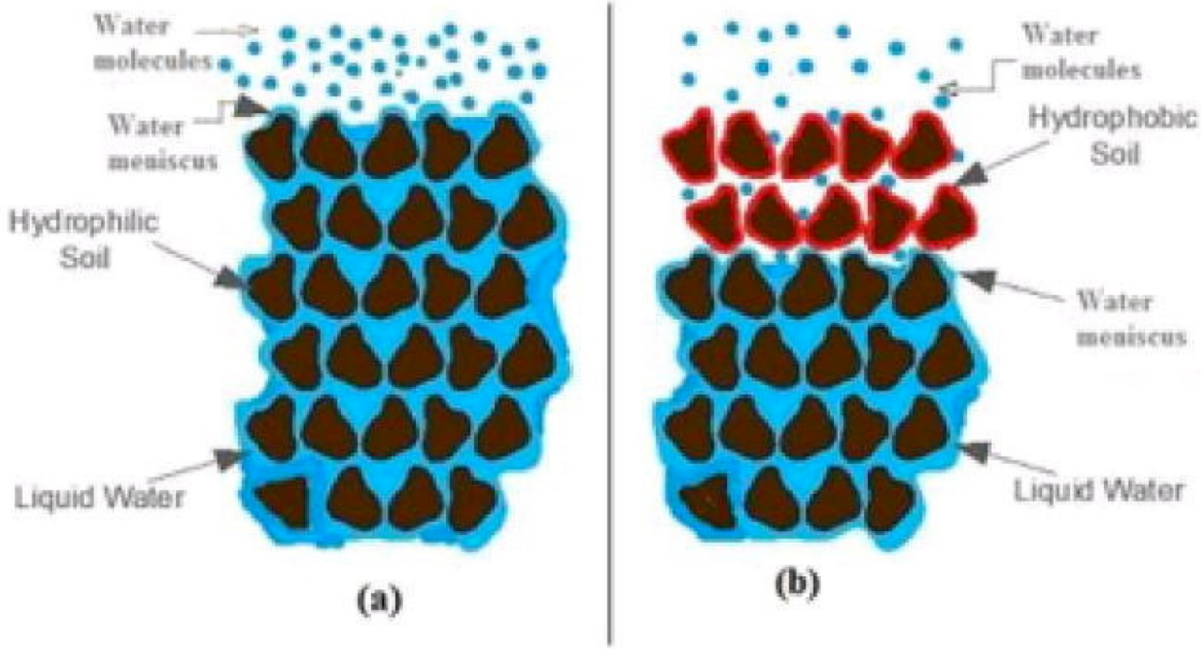


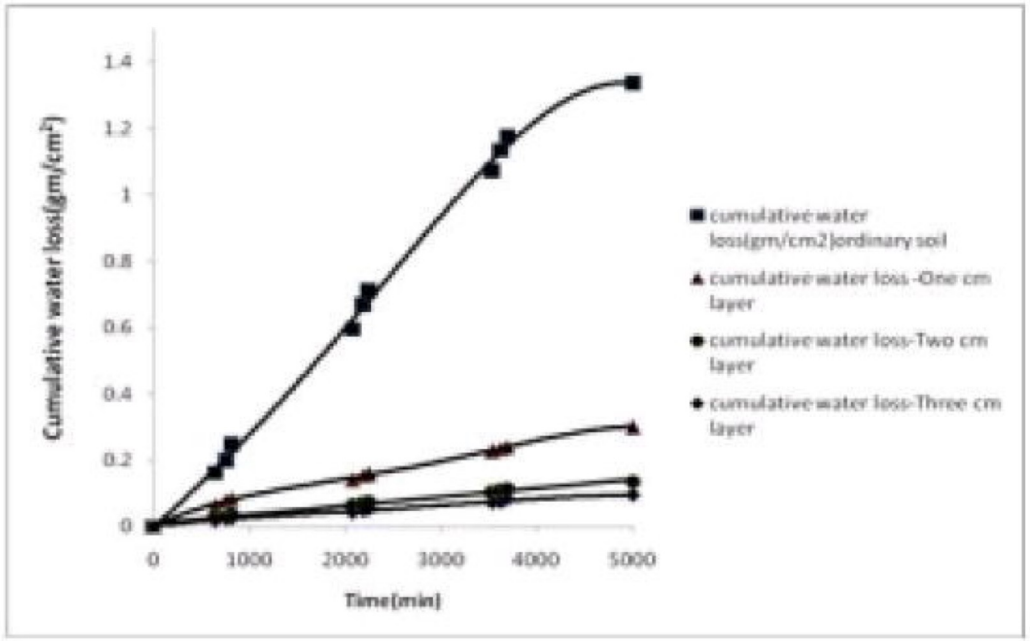
HYDROPHILIC

HYDROPHOBIC

CAPILLARY ACTION DEPENDS ON CONDUCTIVITY OF FULL PATH

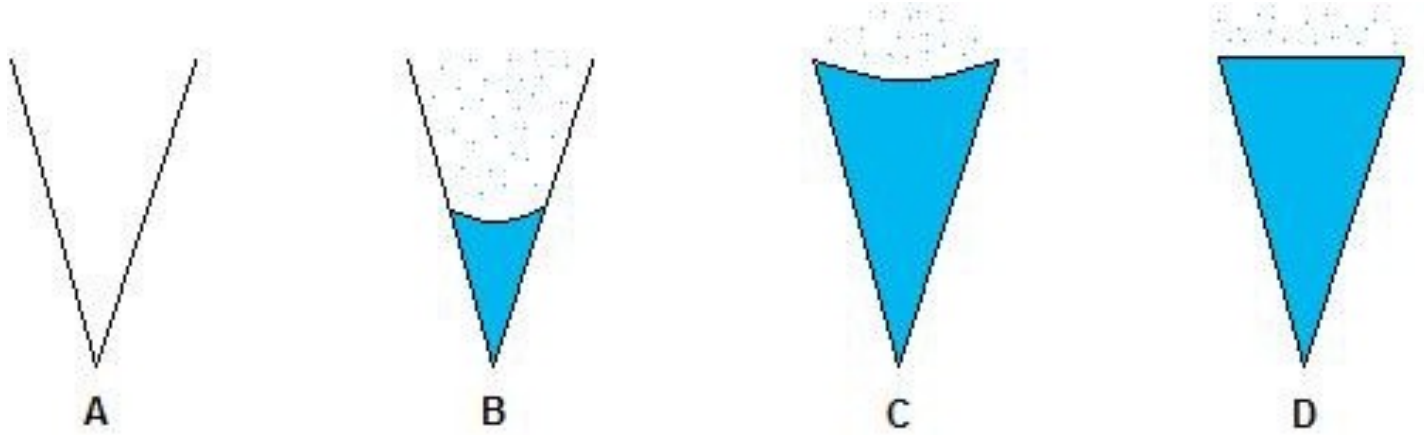
Study: Hydrophobic soil layer reduces evaporation



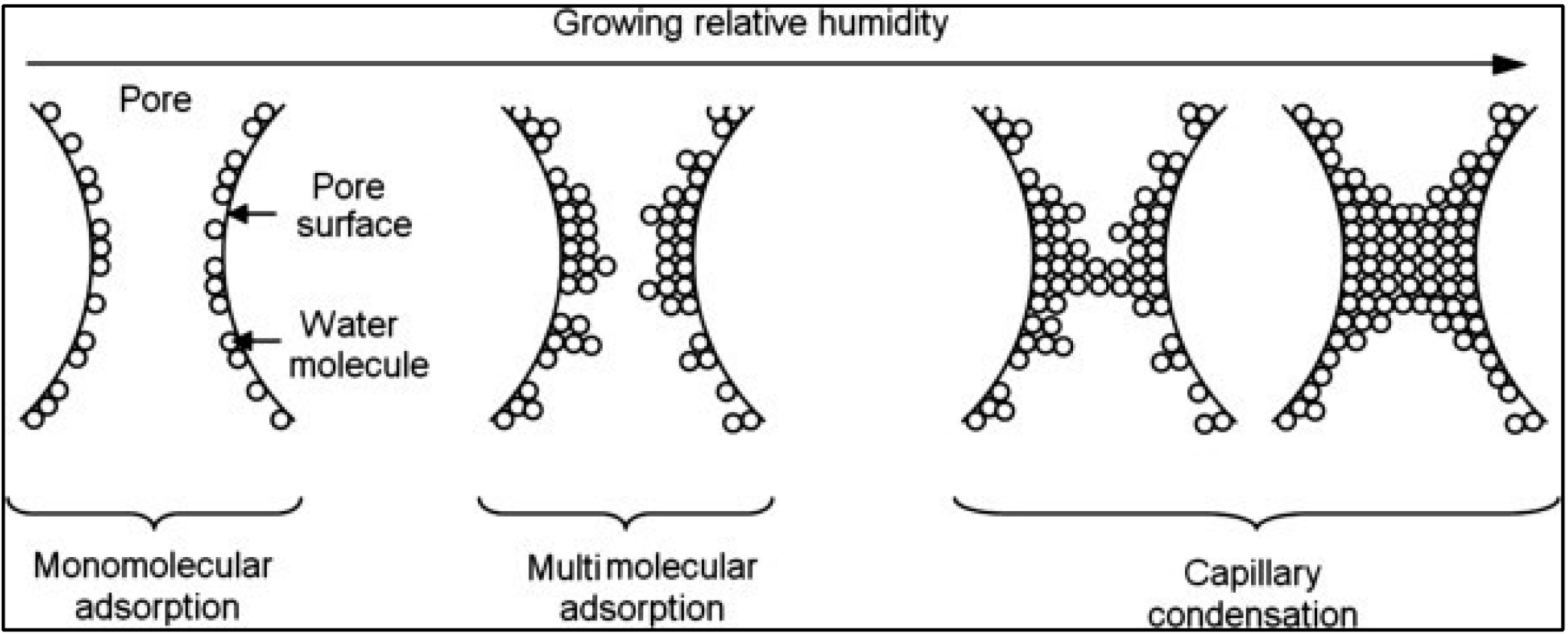


CAPILLARY CONDENSATION:

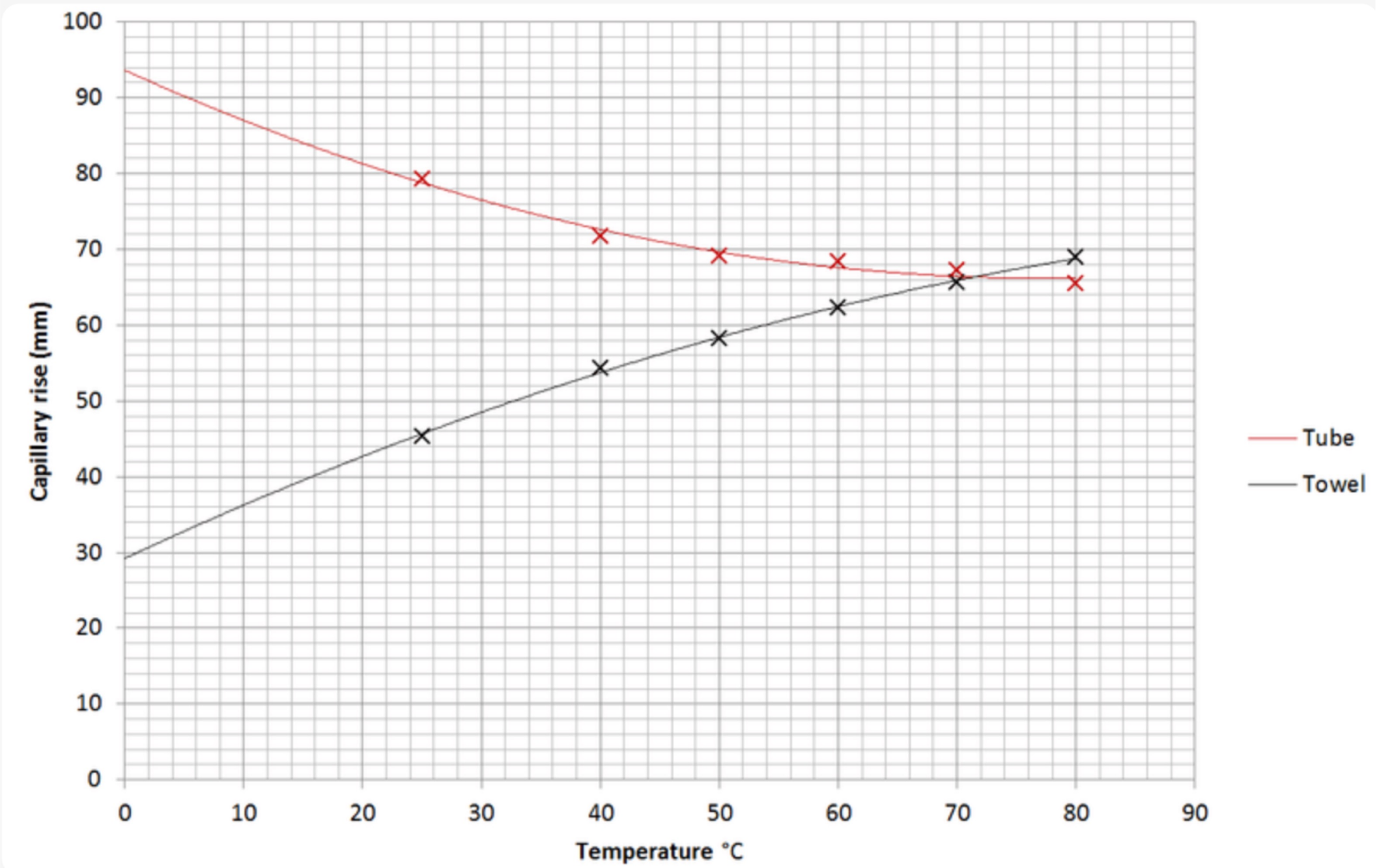
A steep meniscus in a very small pore space increases Van der Waal forces between vapor and liquid phased molecules, reducing vapor pressure and causing capillary condensation.



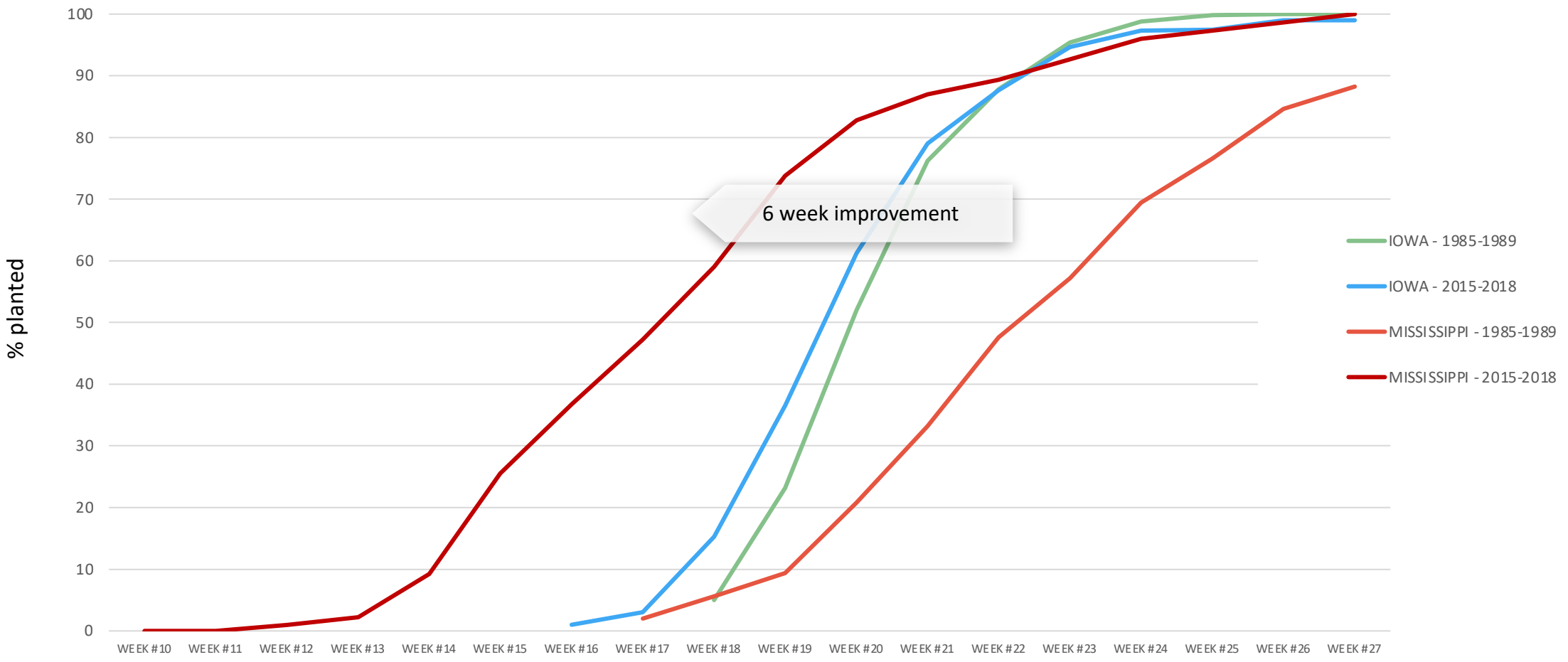
CAPILLARY CONDENSATION



TEMPERATURE AFFECTS CAPILLARY ACTION



IOWA VS MISSISSIPPI SOYBEAN PLANTING DATES

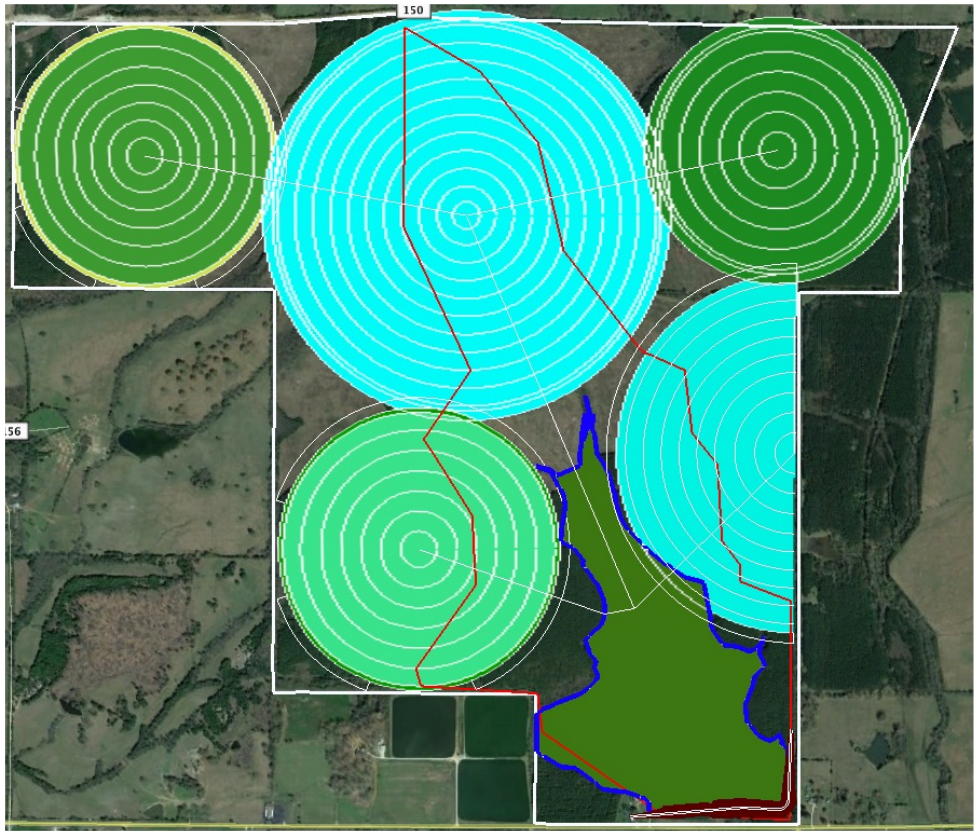


Source: USDA National Agricultural Statistics Service

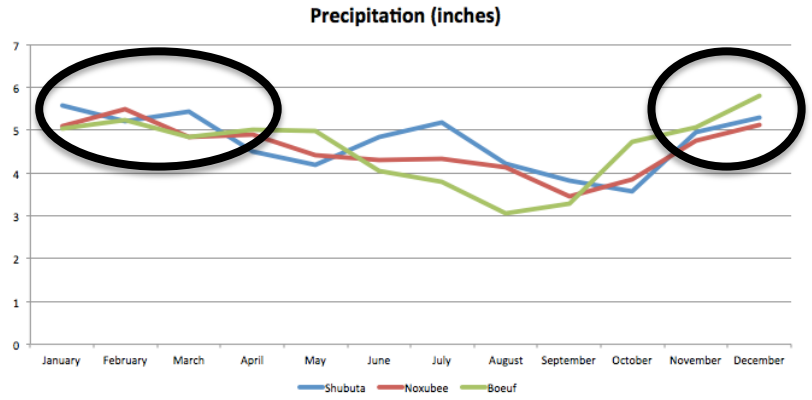
Tile Project Results

Planet Labs Image 8/11/2016

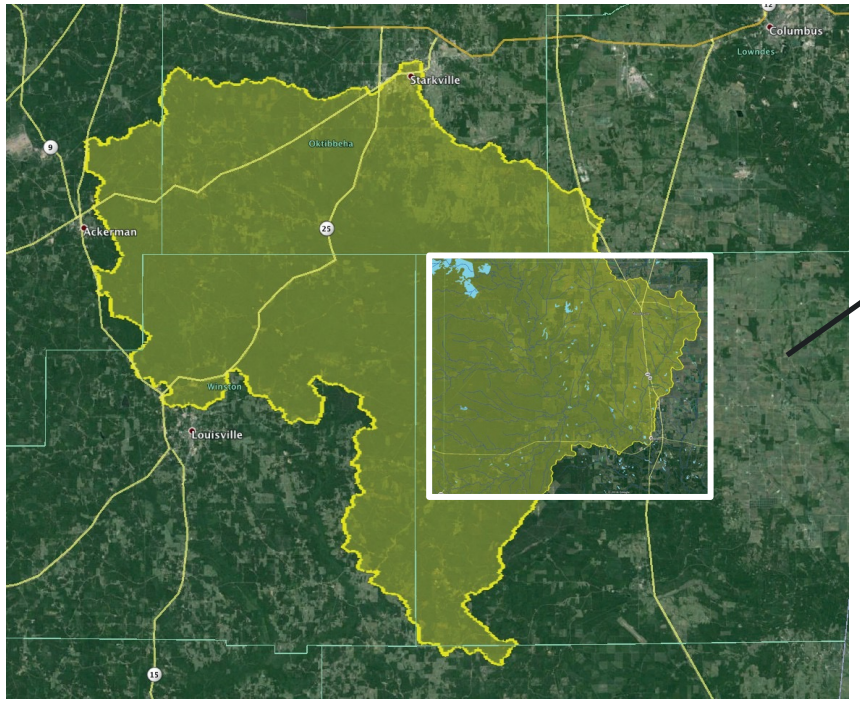
Irrigation Potential - Renewable Water



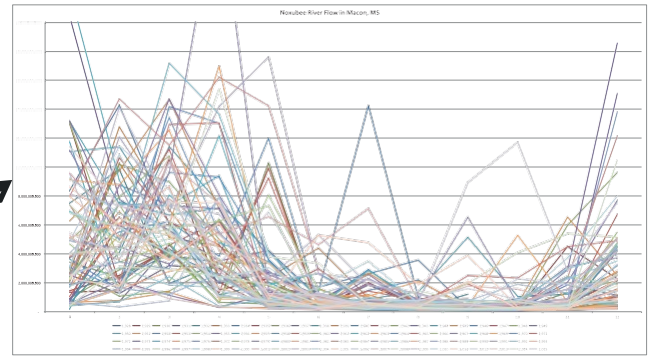
Watersheds and Irrigation



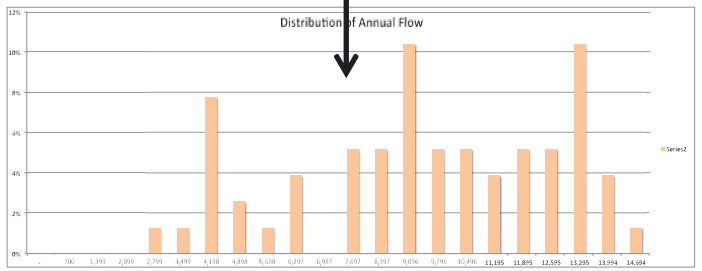
Irrigation Design – Watershed Analysis



Noxubee River Watershed



Distribution of Annual Rainfall

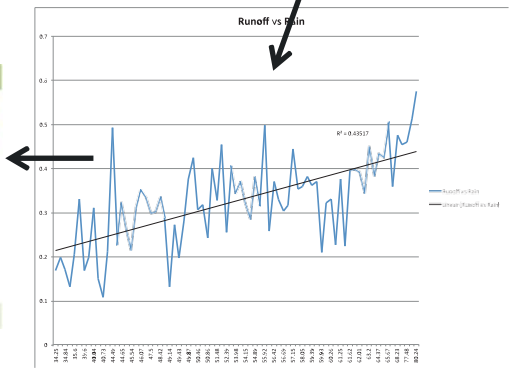


Distribution of Annual River Flow

Average Year		West Parcel	East Parcel
Annual Rainfall	*inch/yr*	53.5	53.5
Runoff	*%*	33%	33%
Area	*ac*	7,276	8,347
Flow	*ac.in*	128,458	147,366
Flow	*ac.ft*	10,705	12,281
Area to Irrigate	*ac*	3,072	1,604
Water needed	*in/ac*	12	12
Water needed	*ac.in*	36,864	19,248
Water available	*%*	348%	766%

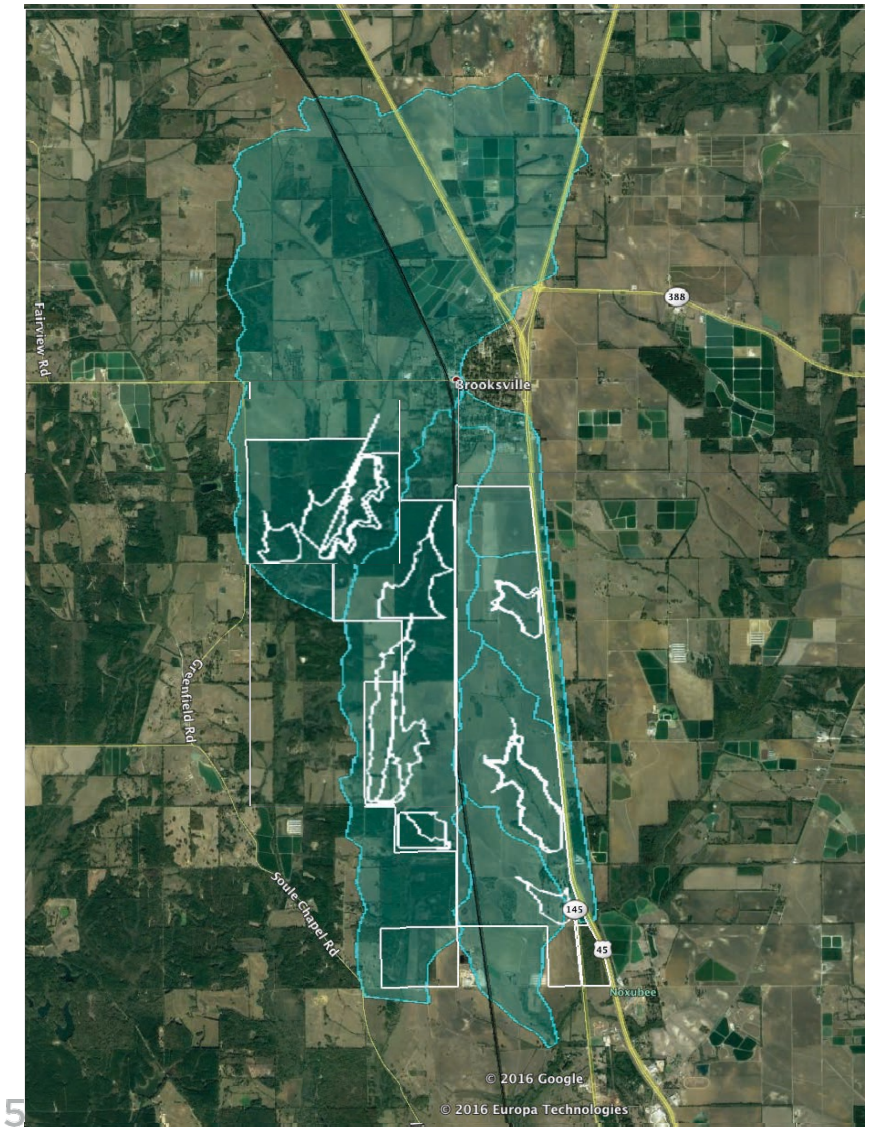
Dry Year		West Parcel	East Parcel
Annual Rainfall	*inch/yr*	35.0	35.0
Runoff	*%*	18%	18%
Area	*ac*	7,276	8,347
Flow	*ac.in*	45,839	52,586
Flow	*ac.ft*	3,820	4,382
Area to Irrigate	*ac*	3,072	1,604
Water needed	*in/ac*	14	14
Water needed	*ac.in*	43,008	22,456
Water available	*%*	107%	234%

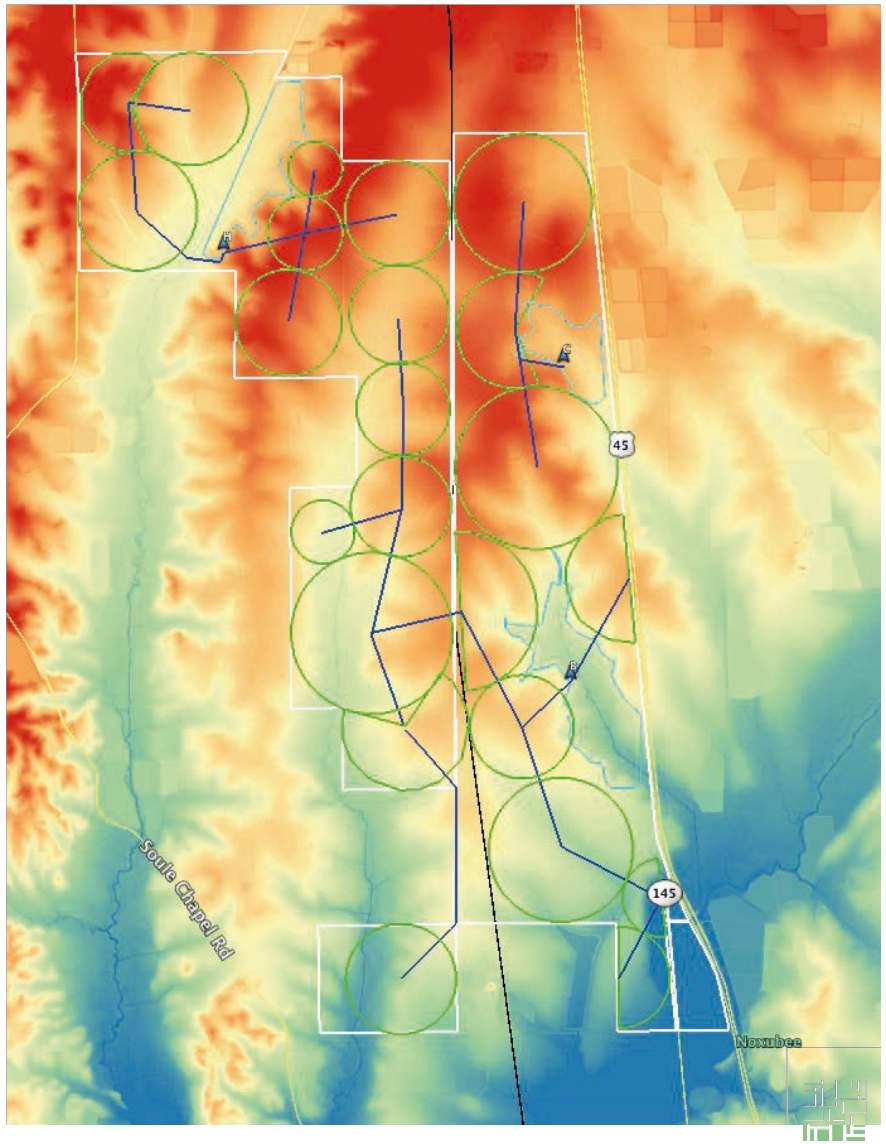
Scenarios of Water Availability



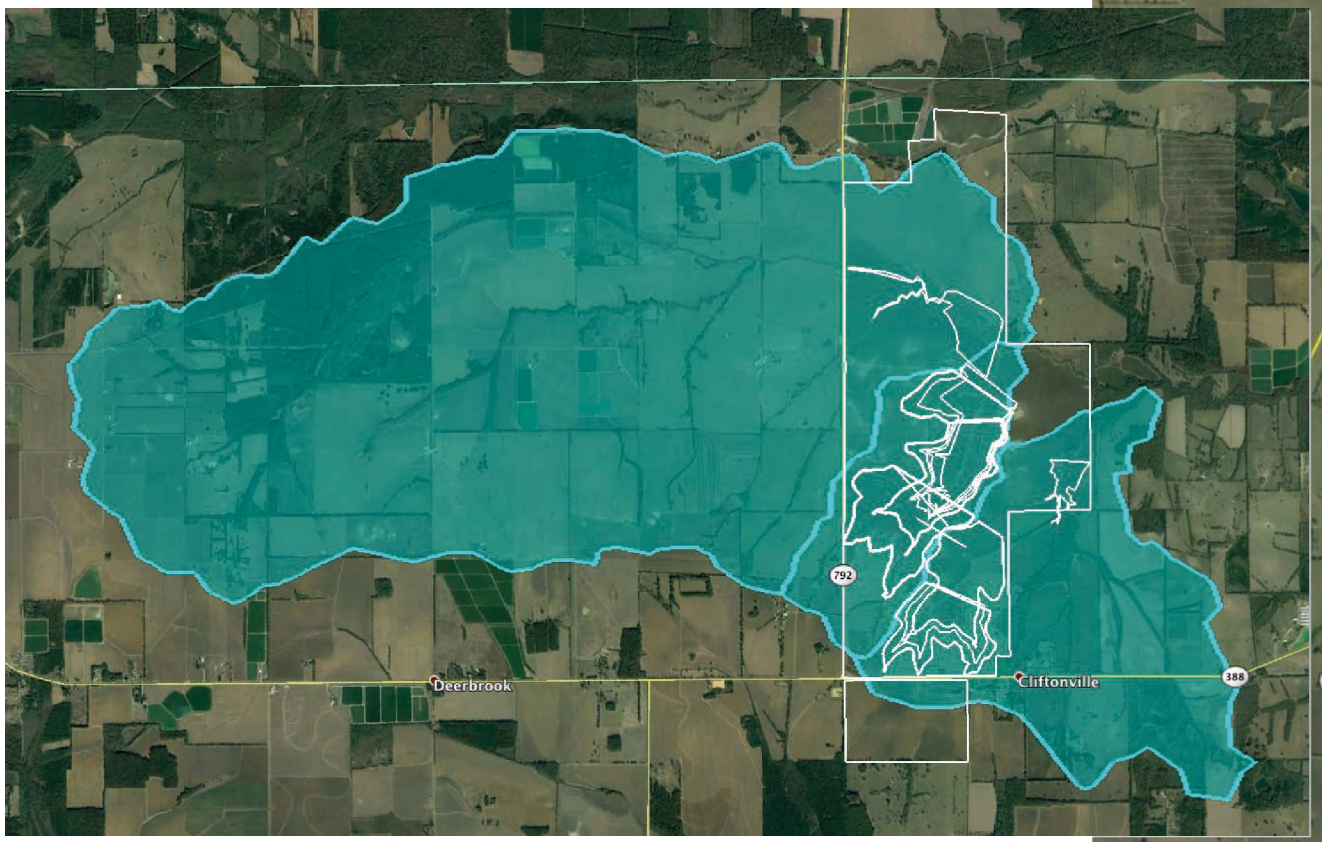
Correlation between Runoff (River Flow) and Rainfall

Irrigation Design – Reservoir Selection

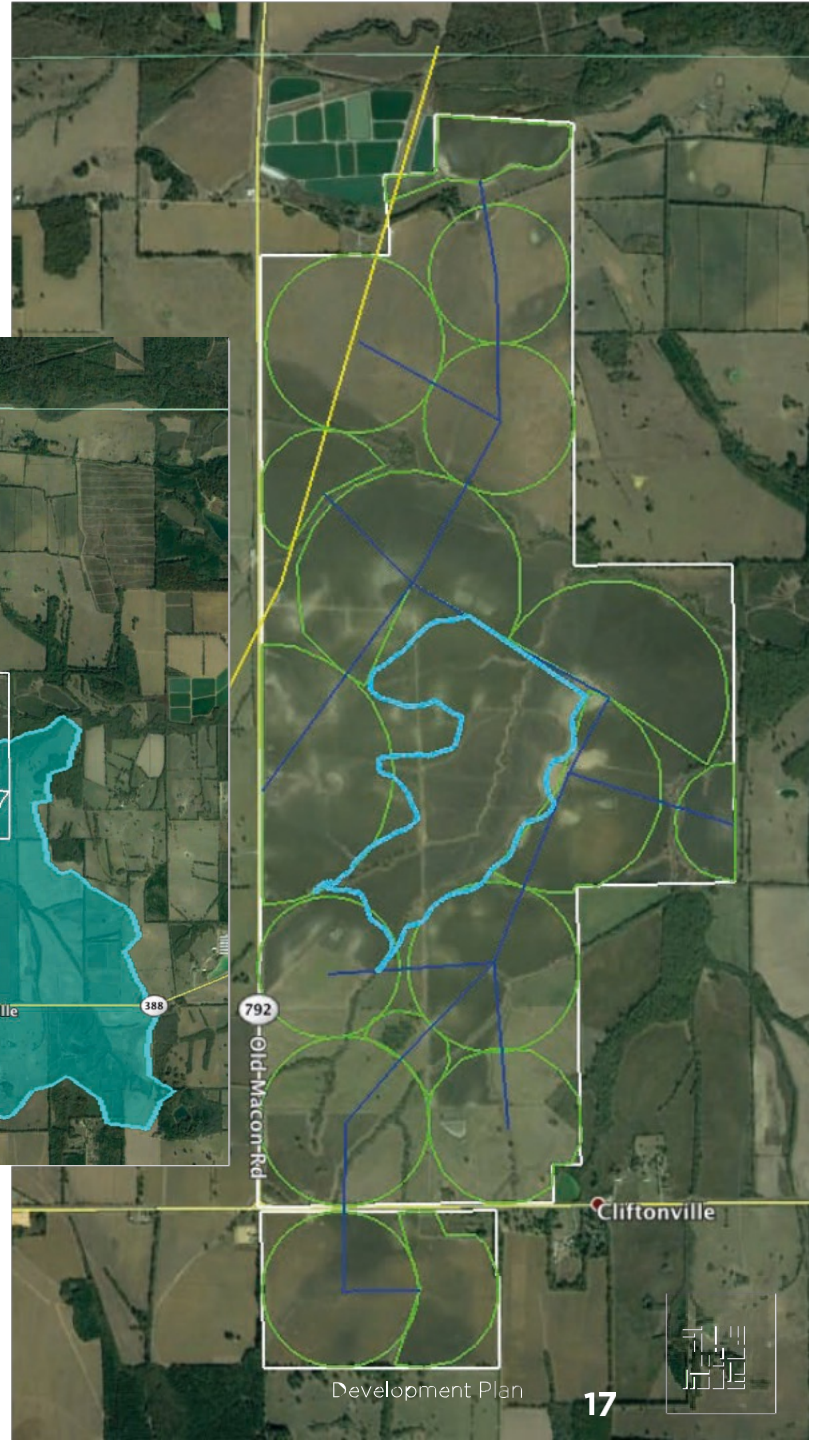




Irrigation Design – Deerbrook

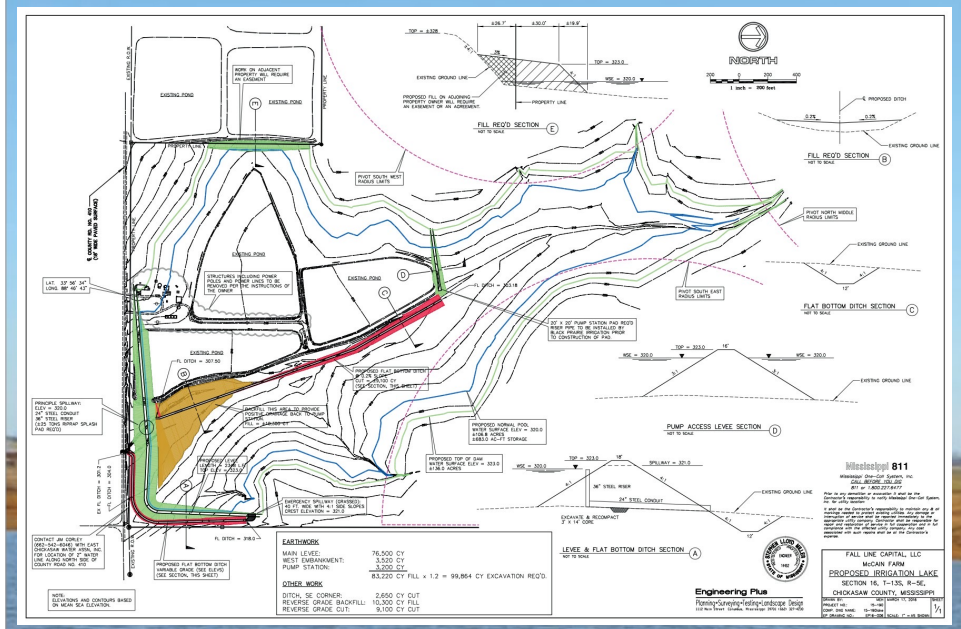


Watersheds and Reservoir Alternatives

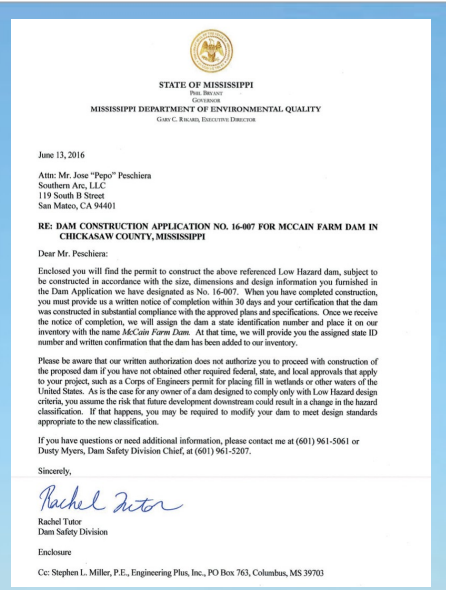


Development Plan

Irrigation Design – Execution



Reservoir Design



STATE OF MISSISSIPPI
PHIL BRYANT
GOVERNOR
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
GARY C. RIKARD, EXECUTIVE DIRECTOR

June 13, 2016

Attn: Mr. Jose "Pepo" Peschiera
Southern Arc, LLC
119 South B Street
San Mateo, CA 94401

RE: DAM CONSTRUCTION APPLICATION NO. 16-007 FOR MCCAIN FARM DAM IN CHICKASAW COUNTY, MISSISSIPPI

Dear Mr. Peschiera:

Enclosed you will find the permit to construct the above referenced Low Hazard dam, subject to be constructed in accordance with the size, dimensions and design information you furnished in the Dam Application we have designated as No. 16-007. When you have completed construction, you must provide us a written notice of completion within 30 days and your certification that the dam was constructed in substantial compliance with the approved plans and specifications. Once we receive the notice of completion, we will assign the dam a state identification number and place it on our inventory with the name *McCain Farm Dam*. At that time, we will provide you the assigned state ID number and written confirmation that the dam has been added to our inventory.

Please be aware that our written authorization does not authorize you to proceed with construction of the proposed dam if you have not obtained other required federal, state, and local approvals that apply to your project, such as a Corps of Engineers permit for placing fill in wetlands or other waters of the United States. As is the case for any owner of a dam designed to comply only with Low Hazard design criteria, you assume the risk that future development downstream could result in a change in the hazard classification. If that happens, you may be required to modify your dam to meet design standards appropriate to the new classification.

If you have questions or need additional information, please contact me at (601) 961-5061 or Dusty Myers, Dam Safety Division Chief, at (601) 961-5207.

Sincerely,

Rachel Tutor
Dam Safety Division

Enclosure

Cc: Stephen L. Miller, P.E., Engineering Plus, Inc., PO Box 763, Columbus, MS 39703

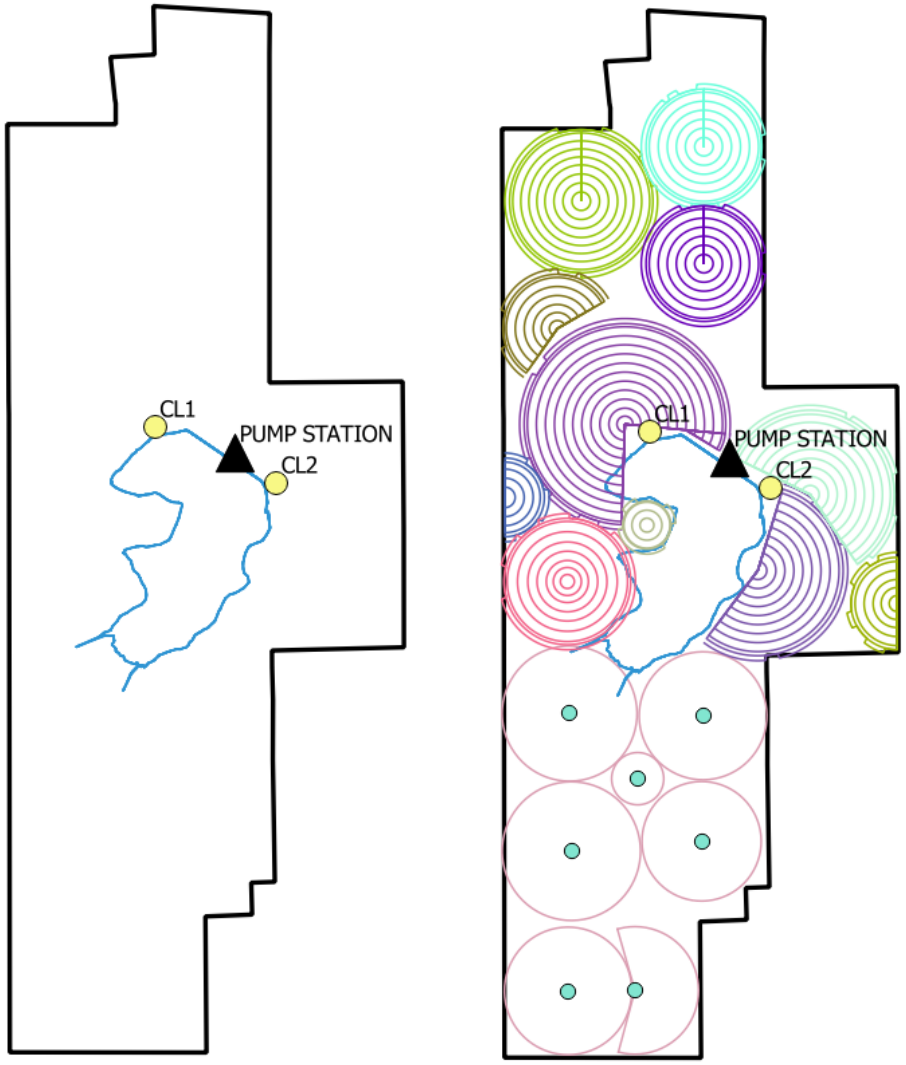
Reservoir Permitting

Reservoir Construction

Field planted with Cover Crops in Winter

1st Irrigated Crop

DEERBROOK – 2615 TOTAL ACRES



RESERVOIR
203 ac under water
1,709 ac-ft storage
171.936 cy excavation

PUMPS
4 200HP pump
1 40HP pump
11,350 GMP

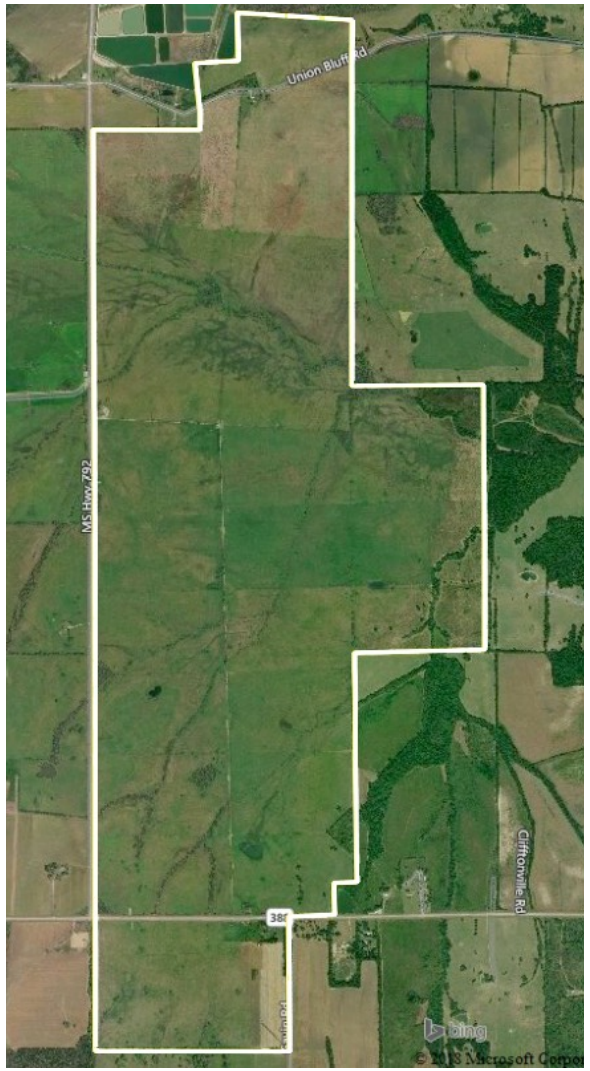
PIVOTS (PHASE 1)
11 Pivots (1,170 irrigated ac)
13,670 ft pivot machine

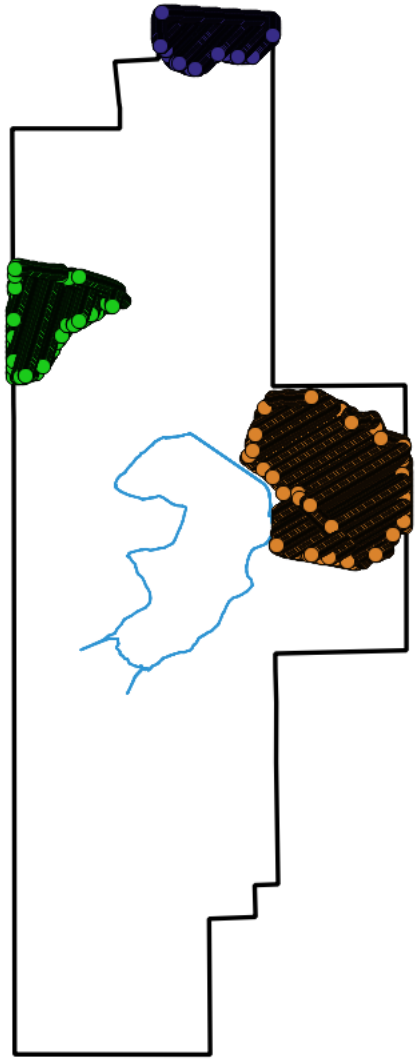
PIVOTS (PHASE 1 + PHASE 2)
16 Pivots (1,737 irrigated ac)
21,950 ft pivot machine

Critical Components

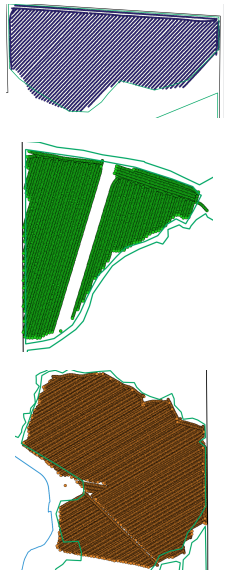
TILE DEVELOPMENT

TILE

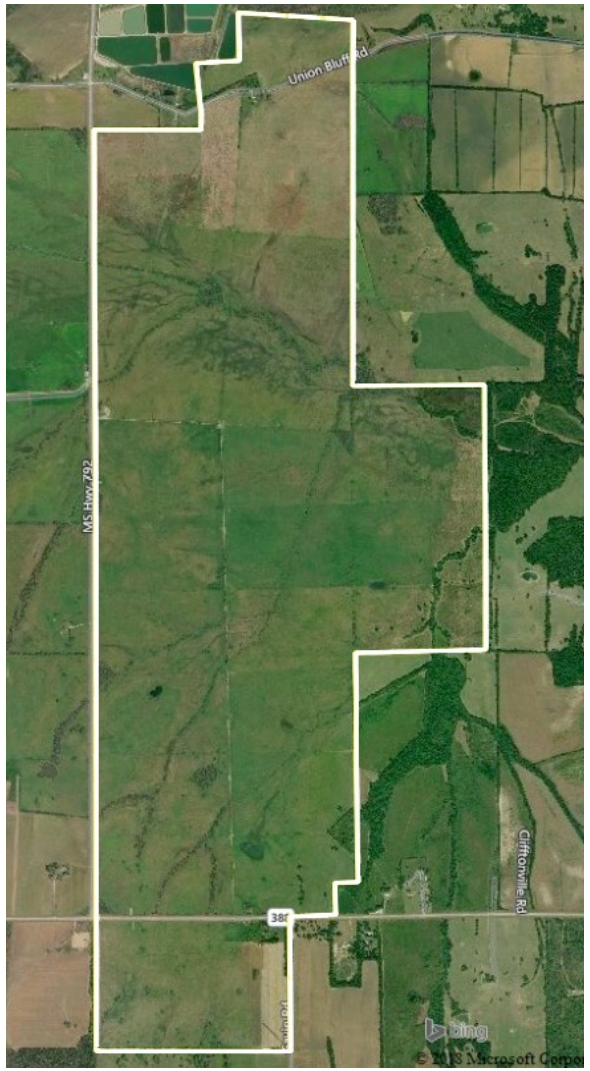


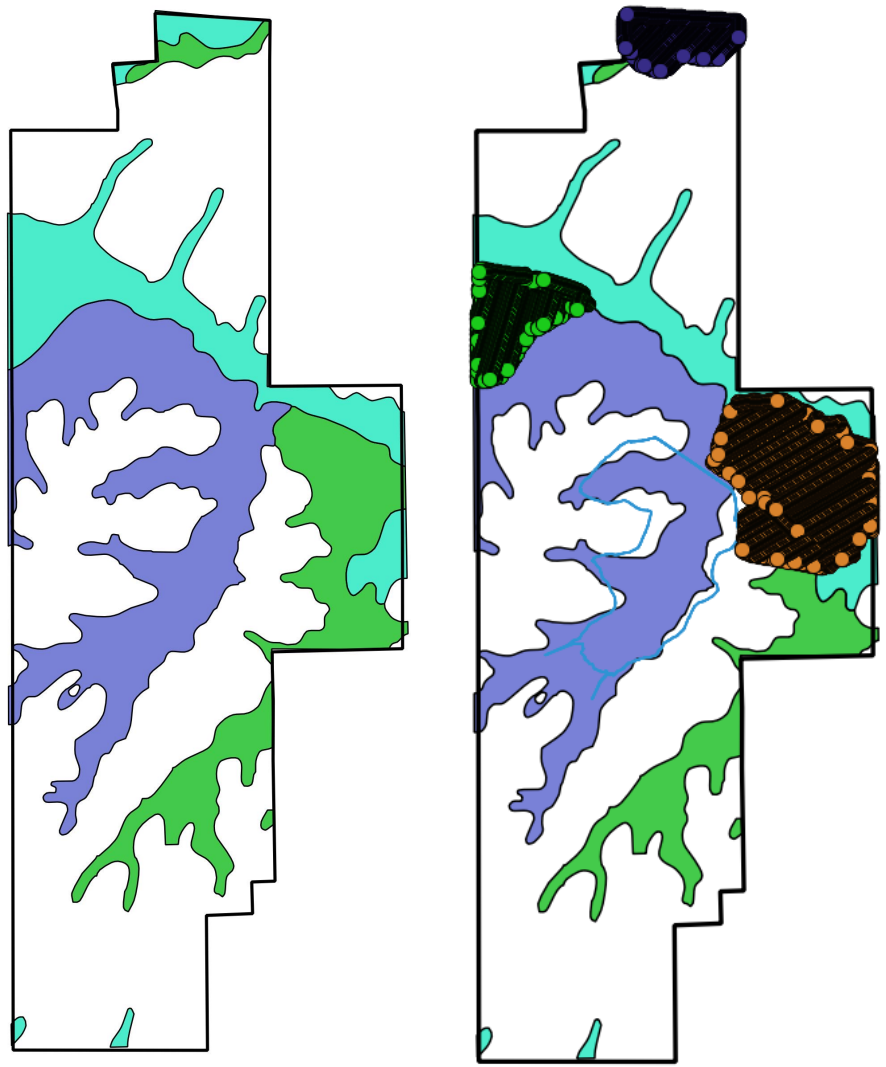


282 ac
30 ft spacing
282,900 ft laterals (3”, 4”)
12,000 ft laterals (6”, 8”, 10”, 12”, 15”)
350 connections (bedding material
used for each of those connections)



DEERBROOK





TILE NORMALLY INSTALLED IN CATALPA, GRIFFITH AND LEEPER SOILS SERIES

Catalpa: 305 ac
Griffith: 485 ac
Leeper: 293 ac
Total: 1083

TILE INSTALLED 2018

282 ac

REMAINING TILE

500 ac (estimate)

AASHTO M252

Corrugated Polyethylene Pipe Test Report for

Company: ADS
Log #: 31641 and 31683
1st Set Date Received: Tuesday, August 22, 2017 — 3 and 4" Pipe
2nd Set Date Received: Wednesday, August 23, 2017 — 4" Pipe
Date Reported: Tuesday, September 12, 2017

RESIN TESTING
(Classification 424420C per ASTM D 3350

Test Method - Description	Specification Limits	Result		Cell Class	Pass / Fail
ASTM D 1505 – Density	0.948 ≤ __ g/cm3	0.957	g/cm3	5	Pass
ASTM D 1238 – Melt Index	≤ 0.4 g	0.13	g	4	Pass
ASTM D 790 – Flexural Modulus	≥ 110,000 psi	151,021	psi	5	Pass
ASTM D 638 – Tensile Strength at Yield	≥ 3,000 psi	4,186	psi	6	Pass
ASTM D 1693 – ESCR 50°C, 24 Hours, 10% Igepal	≤ 20% Failure	0.0	%	2.0	Pass

PIPE TESTING

3" Pipe

Test Method - Description	Specification Limits	Result (SI)		Result (US Customary)		Pass / Fail
AASHTO M 294 – Workmanship/Delamination	No visible defects	OK		OK		Pass
ASTM D 2122 – Pipe Inside Diameter	73.9 (2.91) ≤ Diameter ≤ 78.4 (3.09)	81.00	mm	3.19	in	Fail
ASTM D 2412 – Pipe Stiffness @ 5%	__ ≥ 240 kPa (34.8 psi);	376.6	kPa	54.6	psi	Pass
	Max Load at 21% Deflection (lbs)	112.7	Kg	248.0	lbs	n/a
AASHTO M 294 – Pipe Flattening	No buckling, cracking, splitting, or delamination prior to 20% deflection	No buckling, etc. prior to 20% deflection		No buckling, etc. prior to 20% deflection		Pass
AASHTO M 294 – Pipe Brittleness	no cracks	6 nonfailures		6 nonfailures		Pass

4" Pipe 1st Set

Test Method - Description	Specification Limits	Result (SI)		Result (US Customary)		Pass / Fail
AASHTO M 294 – Workmanship/Delamination	No visible defects	OK		OK		Pass
ASTM D 2122 – Pipe Inside Diameter	98.5 (3.88) ≤ Dia. ≤ 104.5 (4.11)	101.50	mm	4.00	in	Pass
ASTM D 2412 – Pipe Stiffness @ 5%	__ ≥ 240 kPa (34.8 psi);	301.2	kPa	43.7	psi	Pass
	Max Load at 21% Deflection (lbs)	98.6	Kg	217.0	lbs	n/a
AASHTO M 294 – Pipe Flattening	No buckling, cracking, splitting, or delamination prior to 20% deflection	No buckling, etc. prior to 20% deflection		No buckling, etc. prior to 20% deflection		Pass
AASHTO M 294 – Pipe Brittleness	no cracks	2 non-failures		2 non-failures		Pass

SUPPLIER QUALITY ENGINEERING

Material
Transport
Management

BURIED DETECTION TAPE: $.04/FOOT