



Stripling Irrigation Research Park

University of Georgia
*College of Agricultural &
Environmental Sciences*

Calvin Perry
Superintendent





Mission

...a state-of-the-art irrigation research and education center to assist farmers in managing irrigation and the general public in understanding the role of water in the economy of the region.

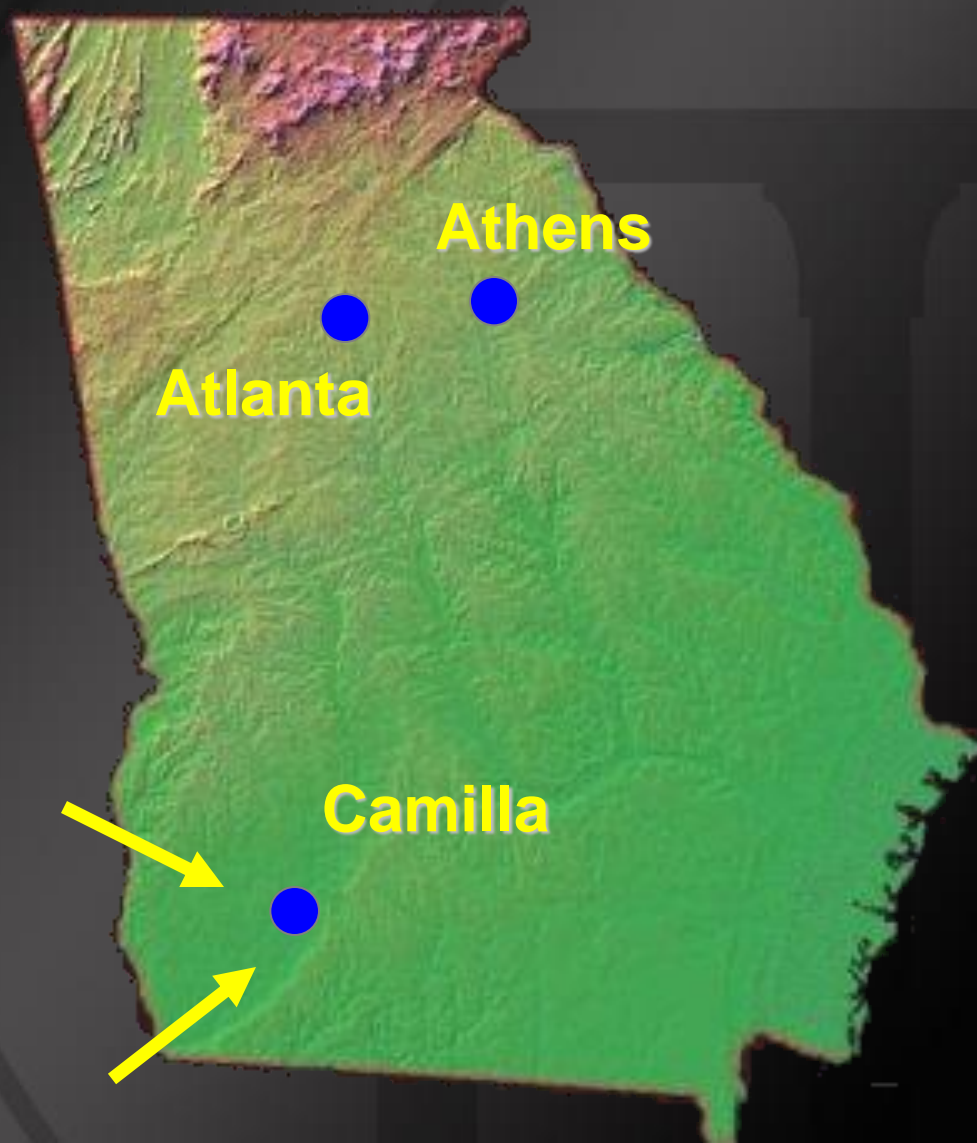
Groundbreaking – 2000
Ribbon-cutting - 2001

Hwy 37

130 ac total
70 ac cropped



Where is SIRP?



More...

C.M.

Stripling

IRRIGATION RESEARCH PARK

Camilla

112

97

C.M.

Stripling

IRRIGATION RESEARCH PARK

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Why Is SIRP Located Near Camilla?

An aerial photograph of a vast agricultural landscape, likely in California's Central Valley, showing a mosaic of rectangular and circular fields in various shades of green, brown, and tan. A prominent dark, winding feature, possibly a canal or road, runs vertically on the left side. A yellow circle is drawn on the right side of the image, highlighting a specific area. A teal rectangular label with the text 'SIRP' is positioned to the right of the circle.

SIRP

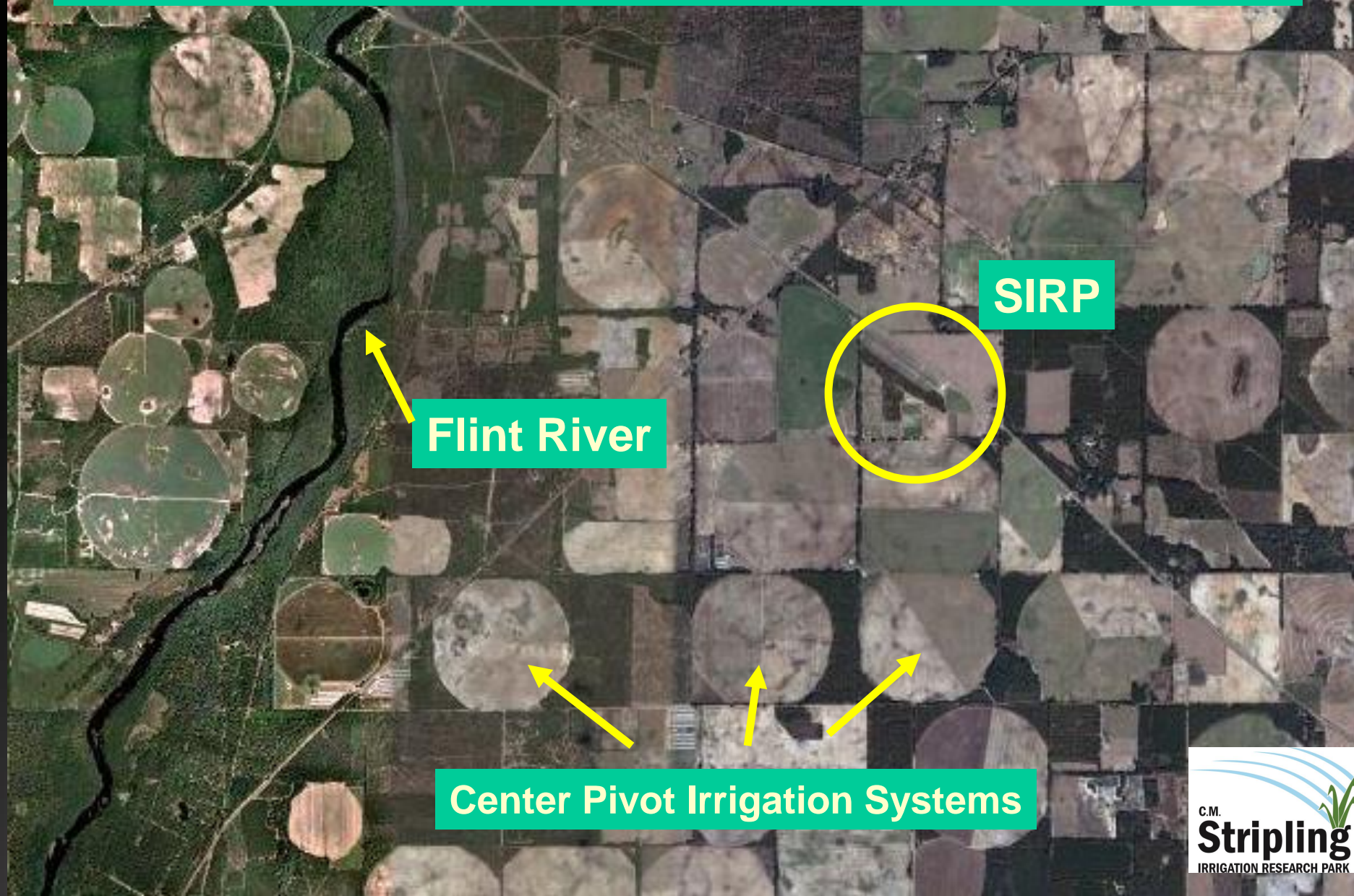
Why Is SIRP Located Near Camilla?

An aerial photograph of a rural landscape, likely in Georgia, showing a patchwork of agricultural fields. A yellow circle highlights a specific location in the center-right of the image. A green rectangular label with the text 'SIRP' is positioned to the right of the circle.

SIRP

- In the heart of irrigated agriculture
- In the Flint River basin
- In the Dougherty Plain recharge area
- Close to clientele

Why Is SIRP Located Near Camilla?



SIRP

Flint River

Center Pivot Irrigation Systems

Importance of Irrigation to Georgia

Now ~ 1,170,000 ac
>13,000 center pivots

1970 - 144,000 acres
87 center pivots

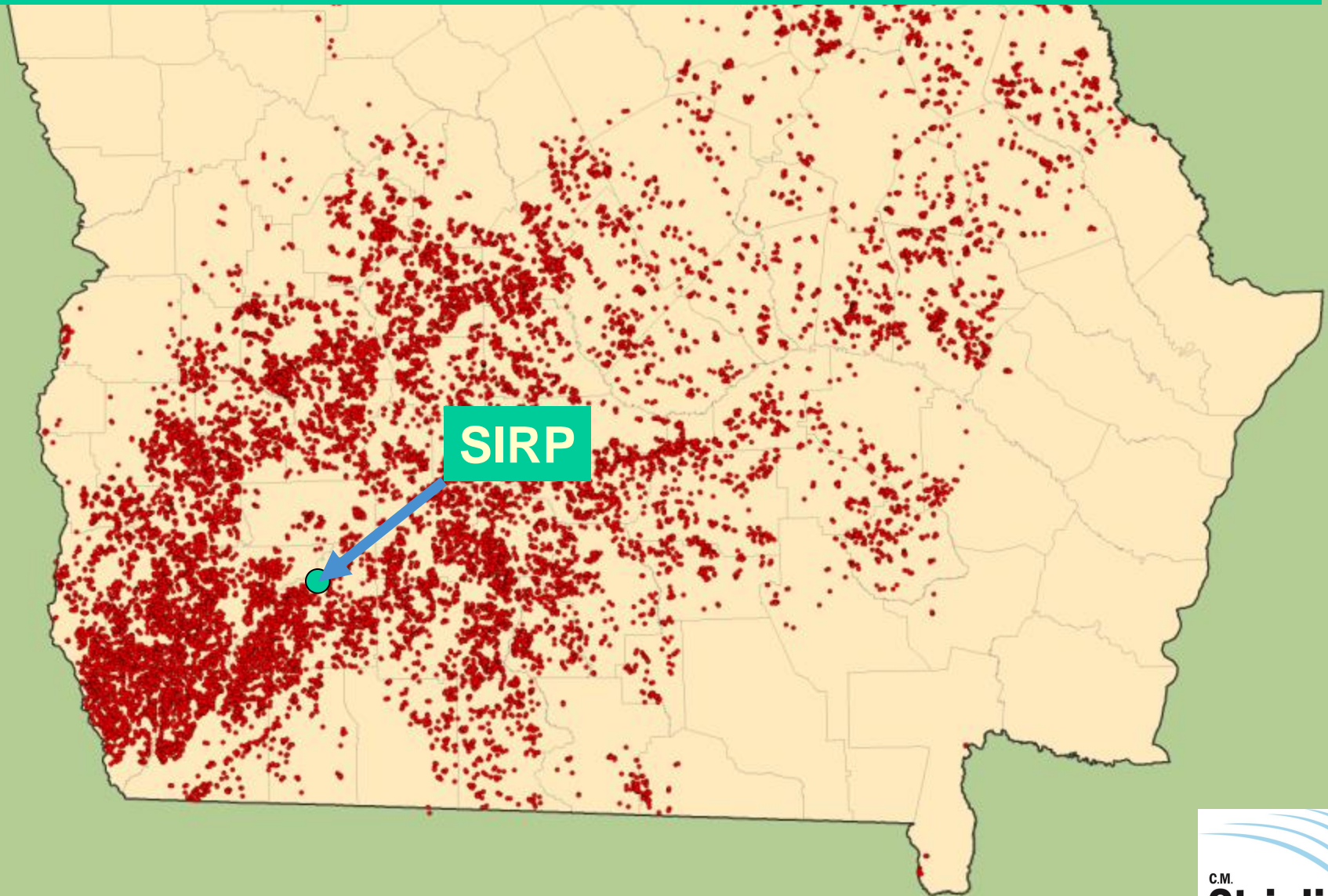
Importance of Irrigation to Georgia

For all irrigation:
11,400 groundwater
6300 surface water

For center pivots:
8500 groundwater
4500 surface water

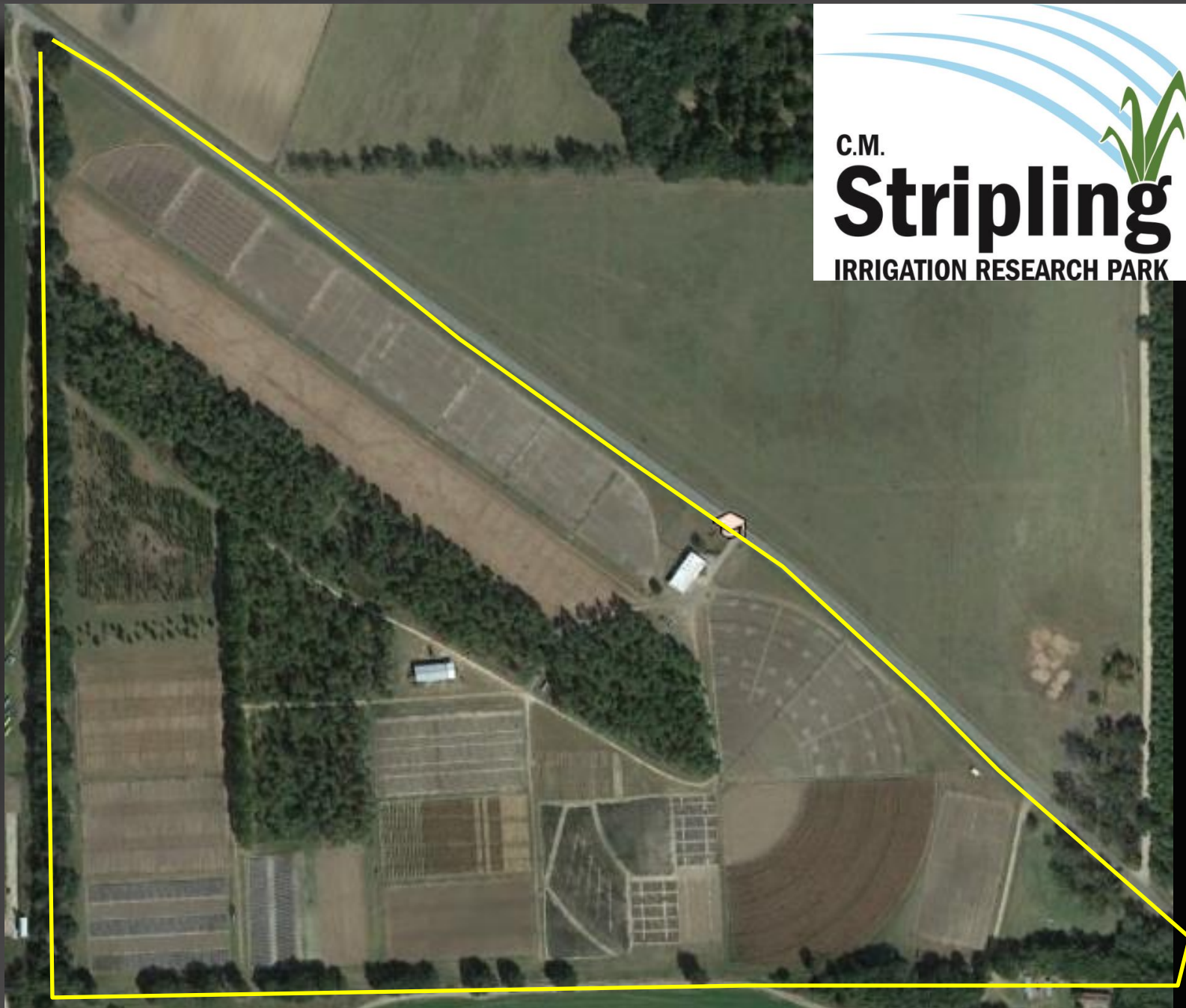
2008 Georgia Irrigation Survey

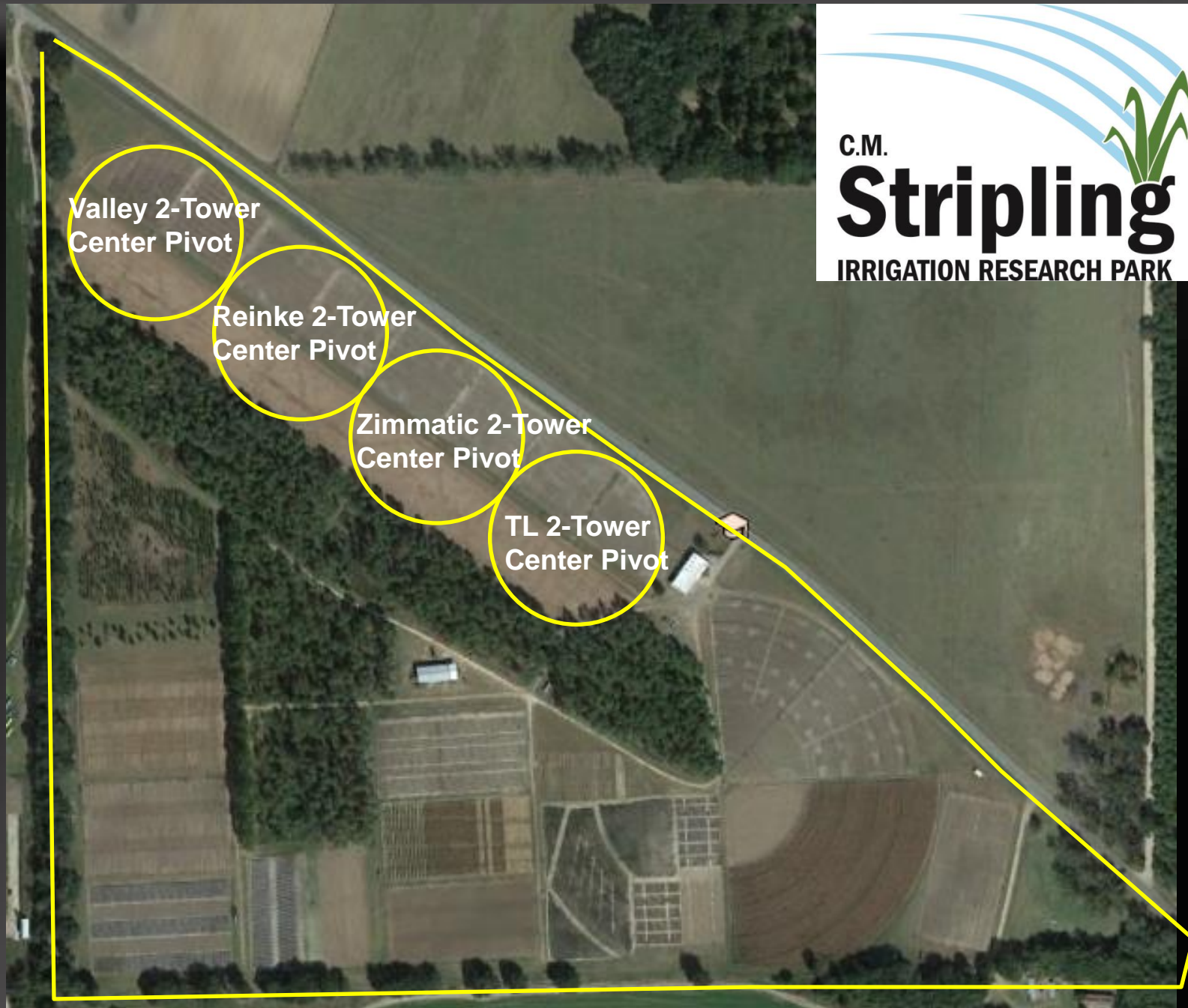
Center Pivot Irrigation Systems





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Valley 2-Tower
Center Pivot

Reinke 2-Tower
Center Pivot

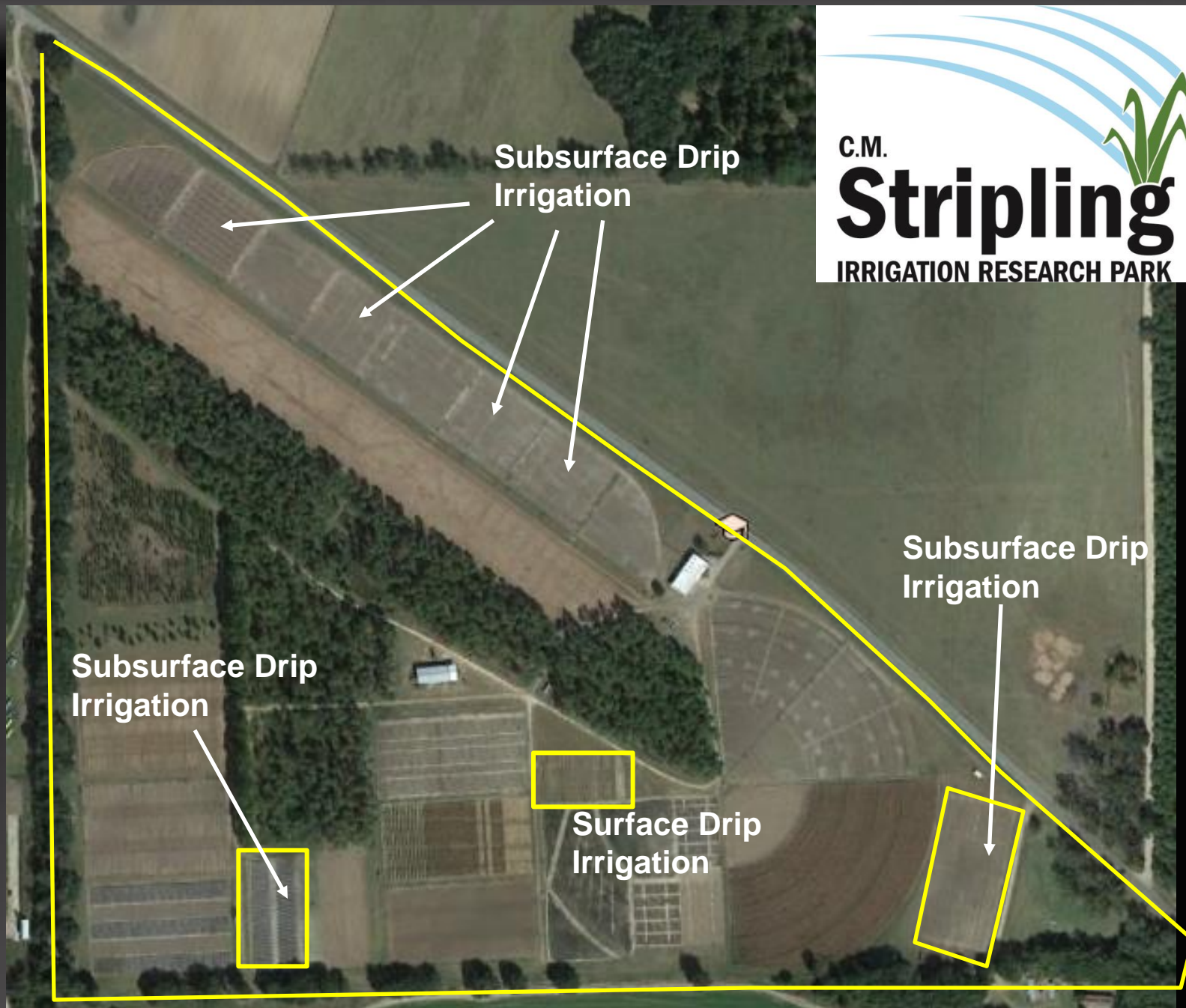
Zimmatic 2-Tower
Center Pivot

TL 2-Tower
Center Pivot



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Valley 4-Tower
Center Pivot
w/ VRI Controls





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**Valley 3 Tower
Lateral System**

**Valley 3 Tower
Lateral System**



Ag Water Conservation Projects

- Low pressure drop nozzle retrofit with end gun shut-off
- Variable rate irrigation (VRI)
- Advanced irrigation scheduling
- Conservation tillage
- Sub-surface drip irrigation

1



Stripling Park offers unique irrigation controls

Stripling Park offers unique irrigation controls



Irrigation management zones



Irrigation management zones

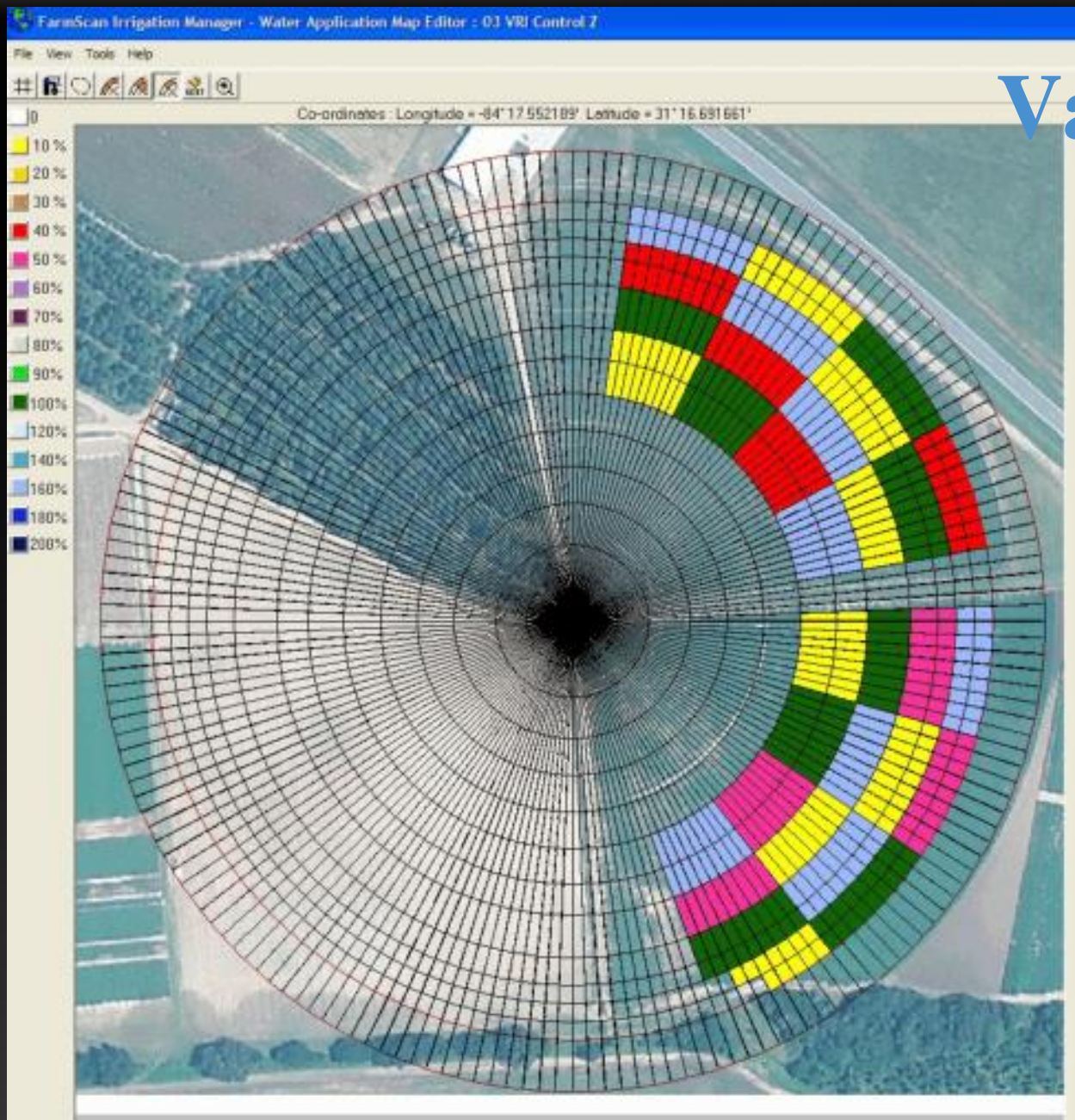


Linear-move with VRI

VRI irrig			Peanut			VRI irrig		Cotton			VRI irrig		Corn			
zones	4 rows	buffer	////			zones					zones				////	
9	8 rows	data	111-5	112-9	113-7	9	211-2	212-1	213-9	9	311-1	312-8	313-9			
	8 rows	buffer	////												////	
8	8 rows	data	114-3	115-8	116-1	8	214-7	215-5	216-6	8	314-2	315-5	316-4			
	8 rows	buffer	////												////	
7	8 rows	data	117-6	118-2	119-4	7	217-3	218-8	219-4	7	317-6	318-7	319-3			
	16 rows	buffer	////												////	
6	8 rows	data	121-8	122-4	123-5	6	221-9	222-6	223-8	6	321-6	322-5	323-1			
	8 rows	buffer	////												////	
5	8 rows	data	124-2	125-1	126-6	5	224-1	225-3	226-4	5	324-3	325-2	326-8			
	8 rows	buffer	////												////	
4	8 rows	data	127-7	128-3	129-9	4	227-5	228-2	229-7	4	327-7	328-9	329-4			
	8 rows	buffer	////												////	
3	8 rows	data	131-2	132-8	133-7	3	231-3	232-9	233-4	3	331-3	332-1	333-7			
	8 rows	buffer	////												////	
2	8 rows	data	134-9	135-4	136-6	2	234-7	235-5	236-8	2	334-4	335-2	336-9			
	8 rows	buffer	////												////	
1	8 rows	data	137-5	138-1	139-3	1	237-6	238-2	239-1	1	337-5	338-8	339-3			
	4 rows	buffer	////												////	
			50 ft	60 ft	50 ft	60 ft	50 ft	50 ft	60 ft	50 ft	60 ft	50 ft	50 ft	60 ft	50 ft	60 ft

Travel

Travel



Variable-Rate Irrigation Zones

Could set up
two sets of 4x4
Latin Square
zone
Configurations

Due to overlap,
research limited
to central parts
of each zone



VRI in Action





VRI in Action





VRI in Action





Subsurface Drip Irrigation





Subsurface Drip Irrigation





Conservation Tillage





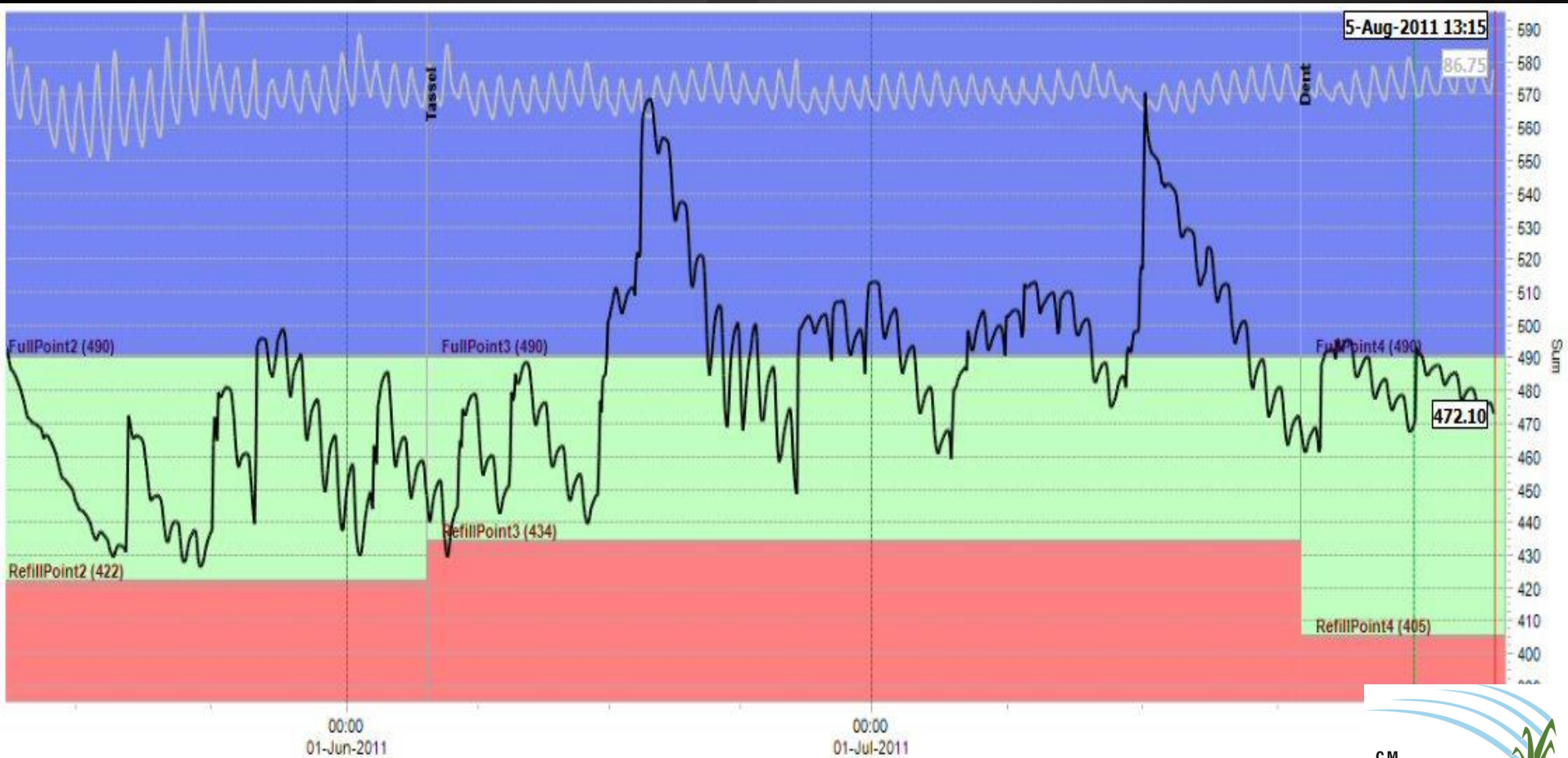
Remote Soil Moisture Monitoring





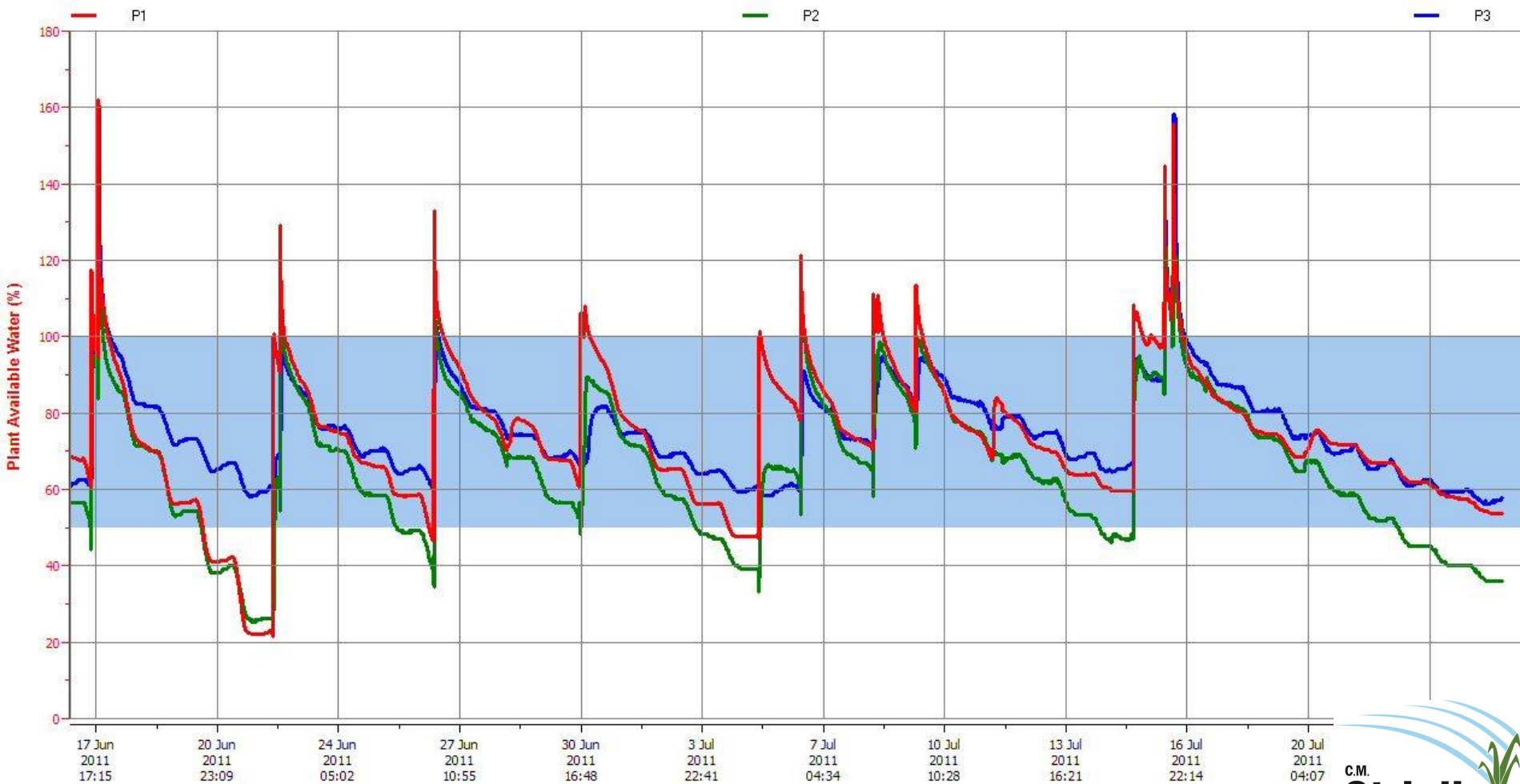


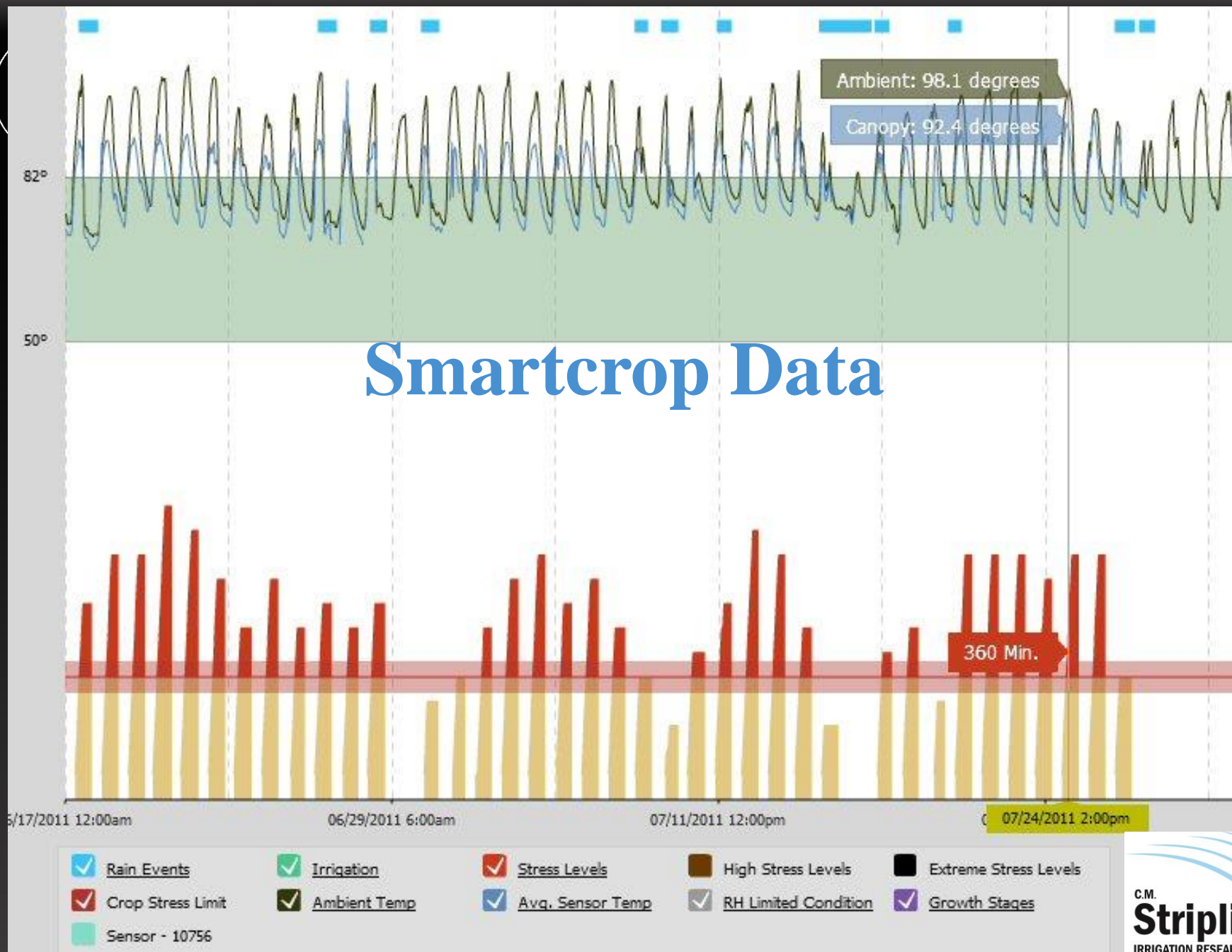
Aquaspy Data



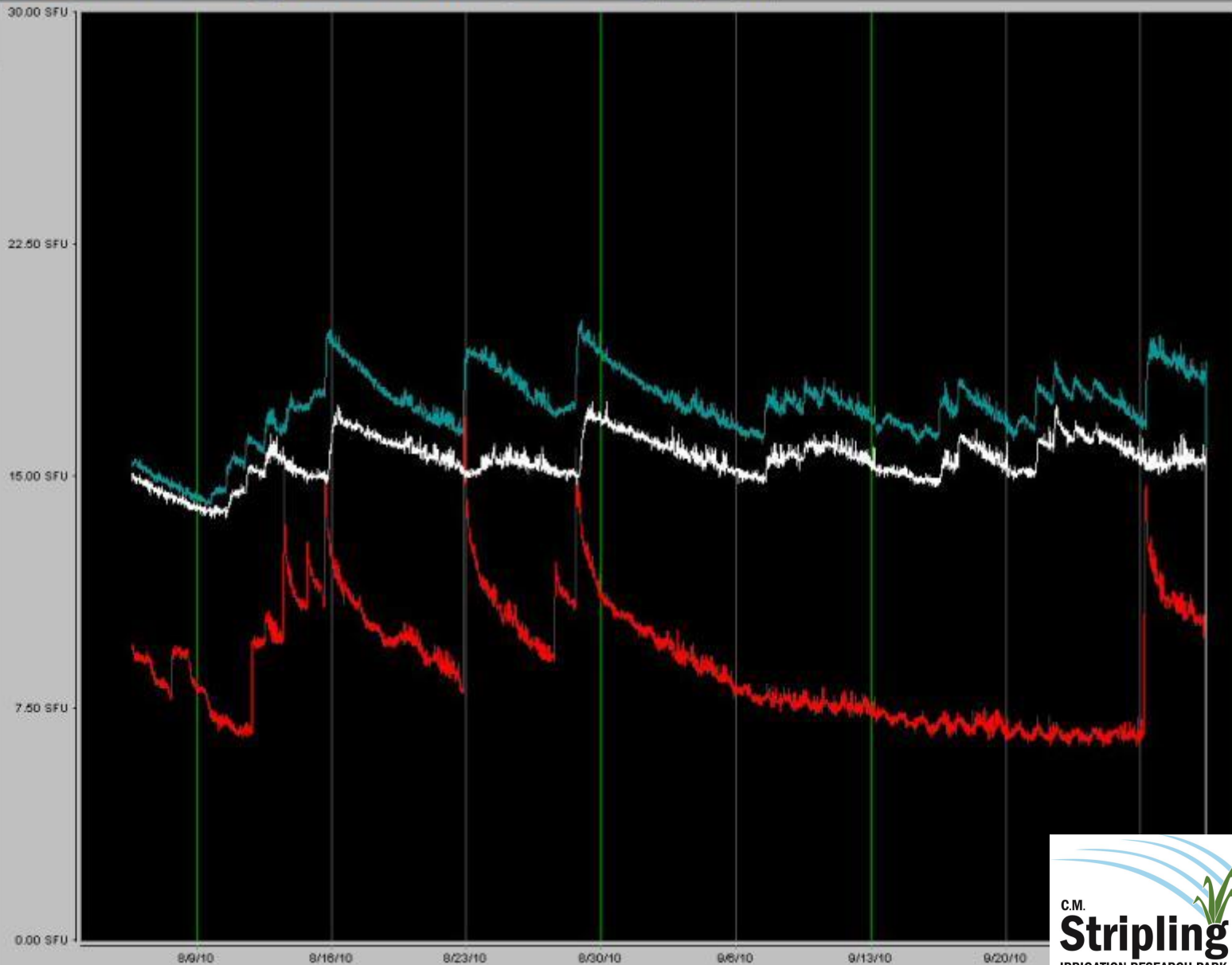


Decagon Data





- ☒ R3MTS 4
9.57 SFU
(Aug 3, 2010 12:00:00 AM)
- ☒ R3MTS 12
15.34 SFU
(Aug 3, 2010 12:00:00 AM)
- ☒ R3MTS 20
14.85 SFU
(Aug 3, 2010 12:00:00 AM)



Season: 2009

Field Setup

Daily Budget

Soil Water Chart

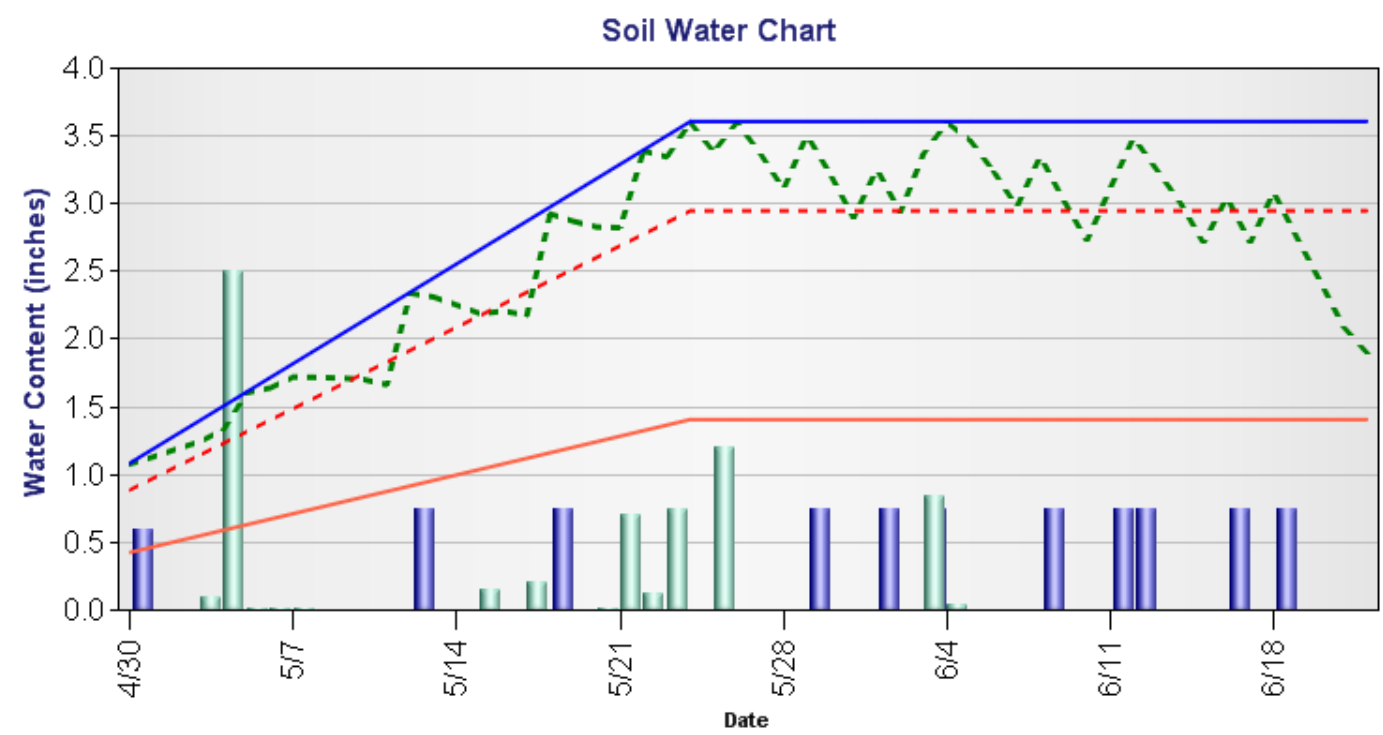
Forecast

Season Summary

Irrigation System

Water Information

sweet corn 30% 09 Water Chart - Sweet Corn



— Soil Water Storage at PWP
 — Soil Water Storage at Field Capacity
 - - - Soil Water Storage at MAD
- - - Calculated Soil Water Content
 Rain
 Irrigation



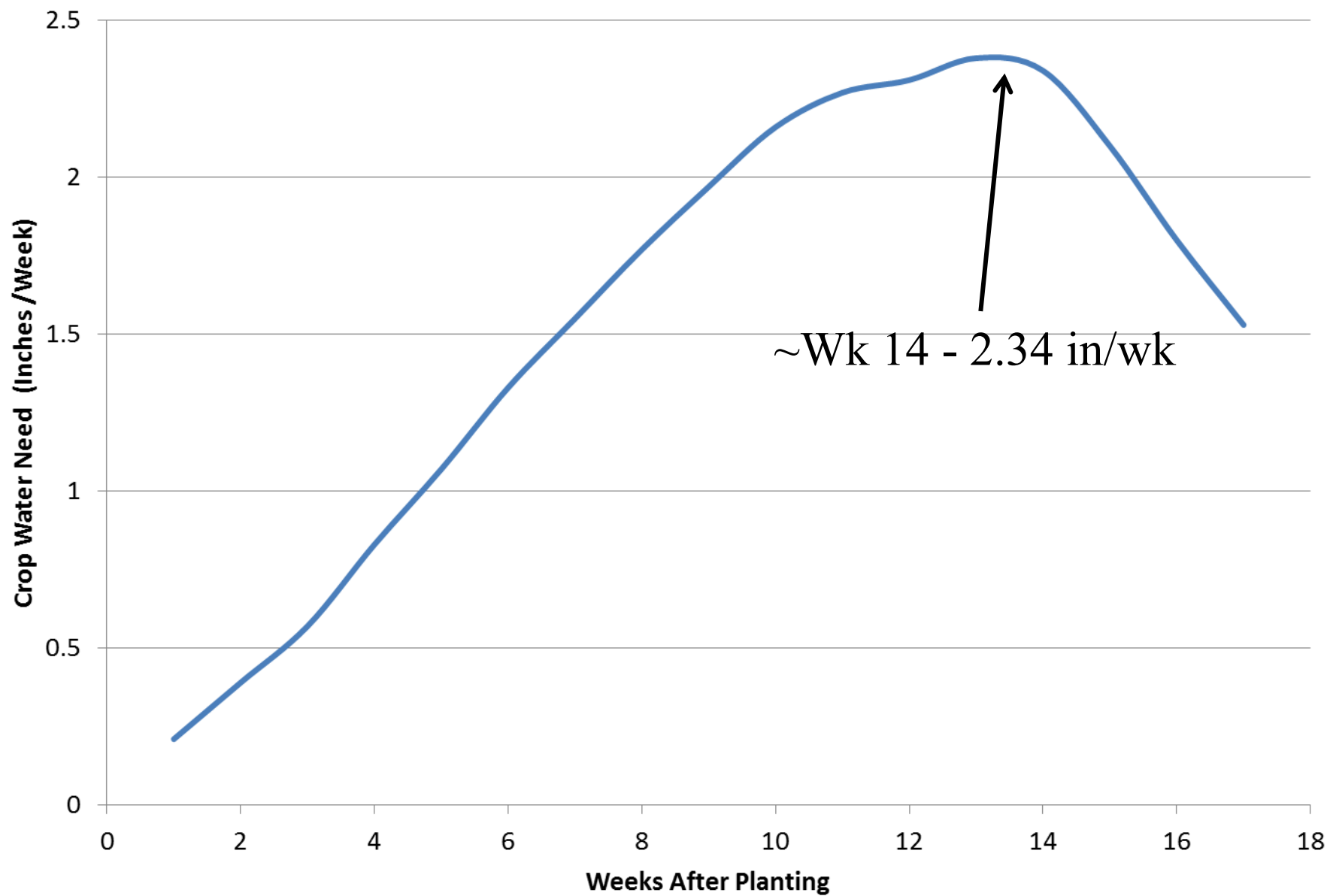
UGA Corn Checkbook

Growth Stage	Days After Planting	Inches Per Day
Emergence and primary root developing.	0-7 8-12	.03 .05
Two leaves expanded and nodal roots forming.	13-17 18-22	.07 .09
Four to six leaves expanding. Growing point near surface. Other leaves and roots developing.	23-27 28-32 33-36	.12 .14 .17
Six to eight leaves. Tassel developing. Growing point above ground.	37-41 42-45	.19 .21
Ten to twelve leaves expanded. Bottom 2-3 leaves lost. Stalks growing rapidly. Ear shoots developing. Potential kernel row number determined.	46-50 51-54	.23 .25
Twelve to sixteen leaves. Kernels per row and size of ear determined. Tassel not visible but about full size. Top two ear shoots developing rapidly.	55-59 60-64	.27 .29



Tassel emerging, ear shoots elongating.	65-69	.31
Pollination and silks emerging.	70-74 75-79	.32 .33
Blister stage.	80-84	.33
Milk stage, rapid starch accumulation.	85-89	.34
Early dough stage, kernels rapidly increasing in weight.	90-94	.34
Dough stage.	95-99	.33
Early dent.	100-104	.30
Dent.	105-109	.27
Beginning black layer.	110-114	.24
Black layer (physiological maturity).	115-119	.21

UGA Corn Checkbook Method





Thanks for your attention.

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