



HIGH TUNNELS: TRACKING TEMPS, ETC

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A presentation at the Alaska Sustainable
Agriculture Conference, Fairbanks



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The Full Title:

Monitoring Impacts of High Tunnels on Growing Conditions and Season Extension in Southcentral Alaska

Who We Are



Project Background



- Over 300 high tunnels in the Homer District
- No real shared information
- Temperature monitoring experience



Project Goals

- Monitor air temperature, RH, soil temperature
- Inside & Outside
- High Tunnels around the area:
 - ▣ Single-poly
 - ▣ Double-poly
 - ▣ “High” elevation
 - ▣ “Low” elevation
- Year-round



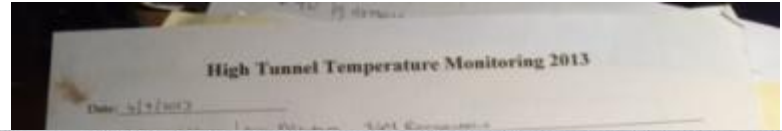
Objectives

- Establish baseline data for air temp, RH and soil temp effects of high tunnels at representative elevations
- Understand the effects of single vs. double poly covers
- Develop a high tunnel website for education & engagement of Alaskan high tunnel producers

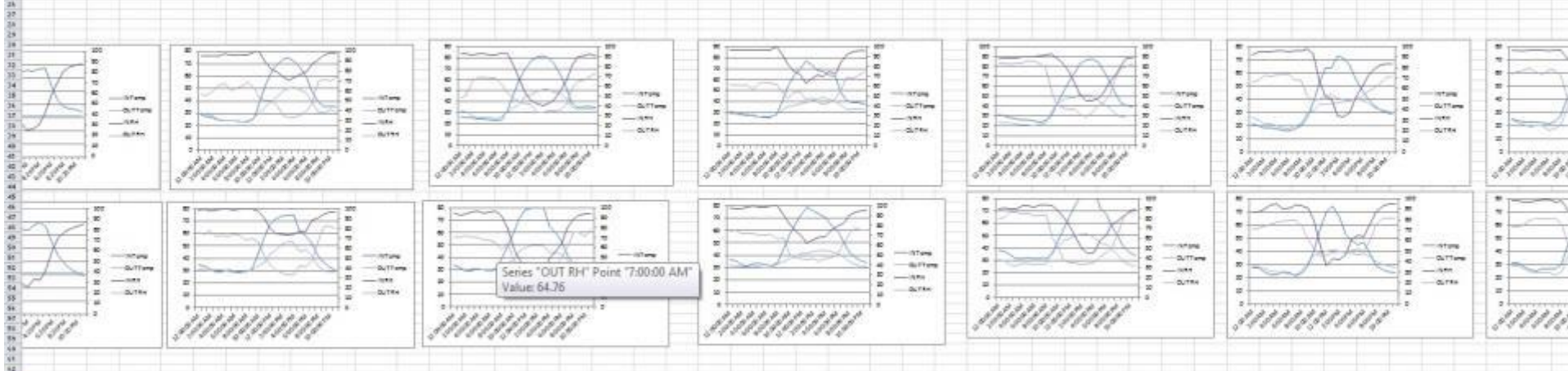
Methods



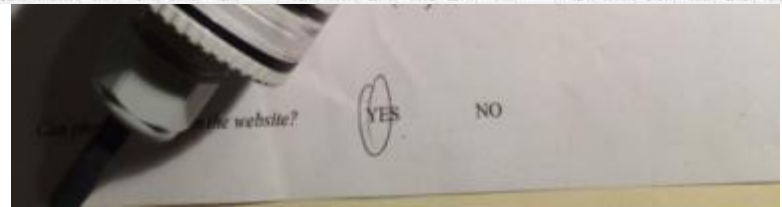
Methods



T	U	S	V	T	Z	SA	SB	SC	SD	SE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO
17	NO	401204	2.00-00-PP	74.186	74.634	80.852	53.434	401204	2.00-00-PP	74.531	42.89	80.481	74.34	401204	2.00-00-PP	84.232	71.818	43.42	44.64	401204	2.00-00-PP	47.071	48.176	80.816	24.41	401204	2.00-00-PP	71.740	35.041	33.464	80.204	401204	2.00-00-PP	28.212	44.33	37.742	44.248	401204	2.00-00-PP	74.573	44.33	37.742	44.248	



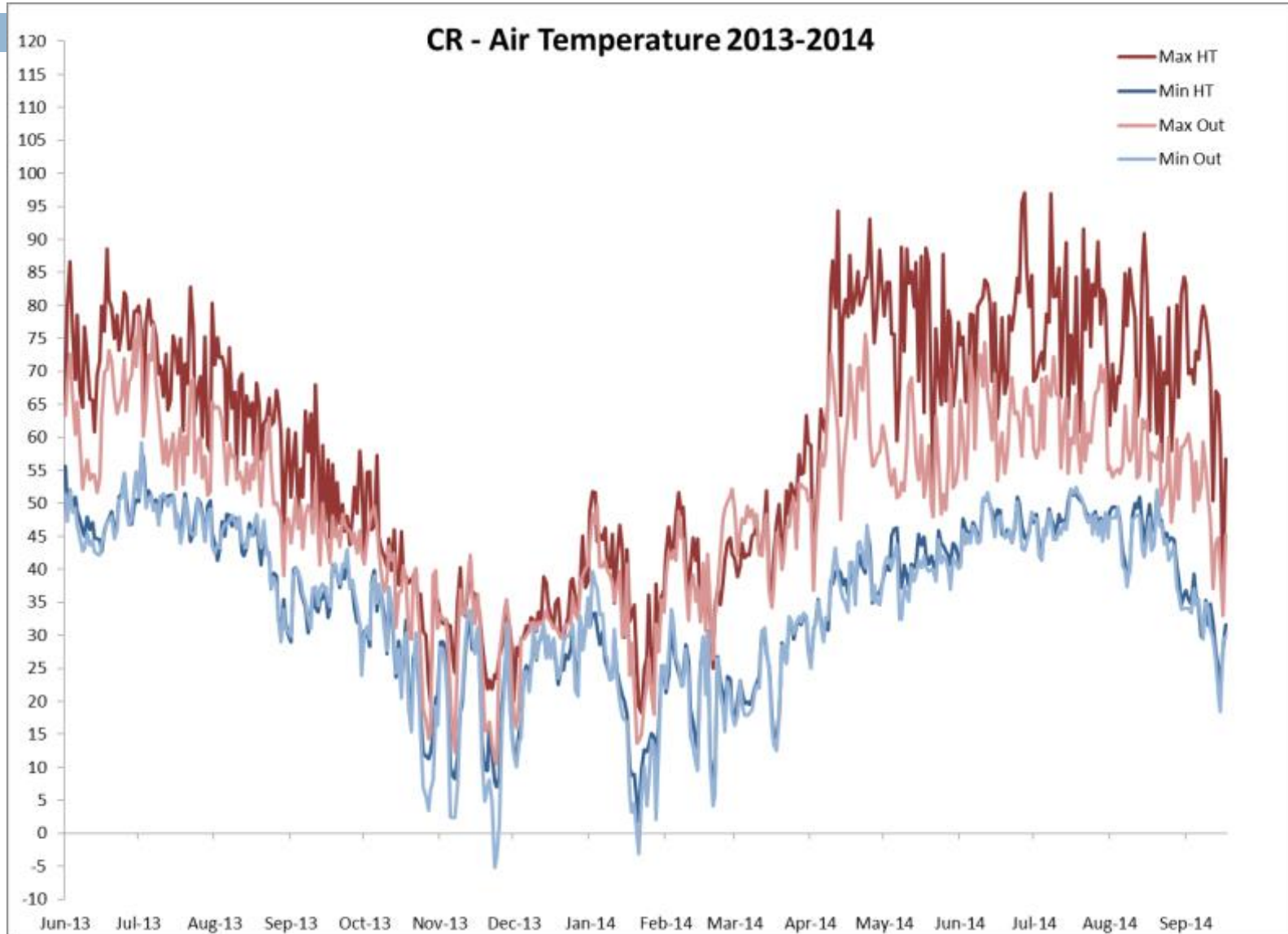
OUTRH	RACHEL	BITemp	BRH	BITemp	OUTRH	POBEN	Temp	BITemp	BRH	BITemp	OUTRH	LARRY	Temp	BITemp	BRH	BITemp	OUTRH	TRACY	Temp	BITemp	BRH	BITemp	OUTRH	TONDE	Temp	BITemp	BRH	BITemp	OUTRH	BETH	Temp	BITemp	BRH	BITemp	OUTRH	
NO	401204	88888888	34.365	69.784	76.617	74.158	401204	88888888	33.376	64.945	32.446	69.658	401204	88888888	36.816	67.846	32.592	74.548	401204	88888888	39.273	69.48	36.817	76.16	401204	88888888	27.272	47.21	38.476	31.824	401204	88888888	30.214	66.846	30.946	75.77



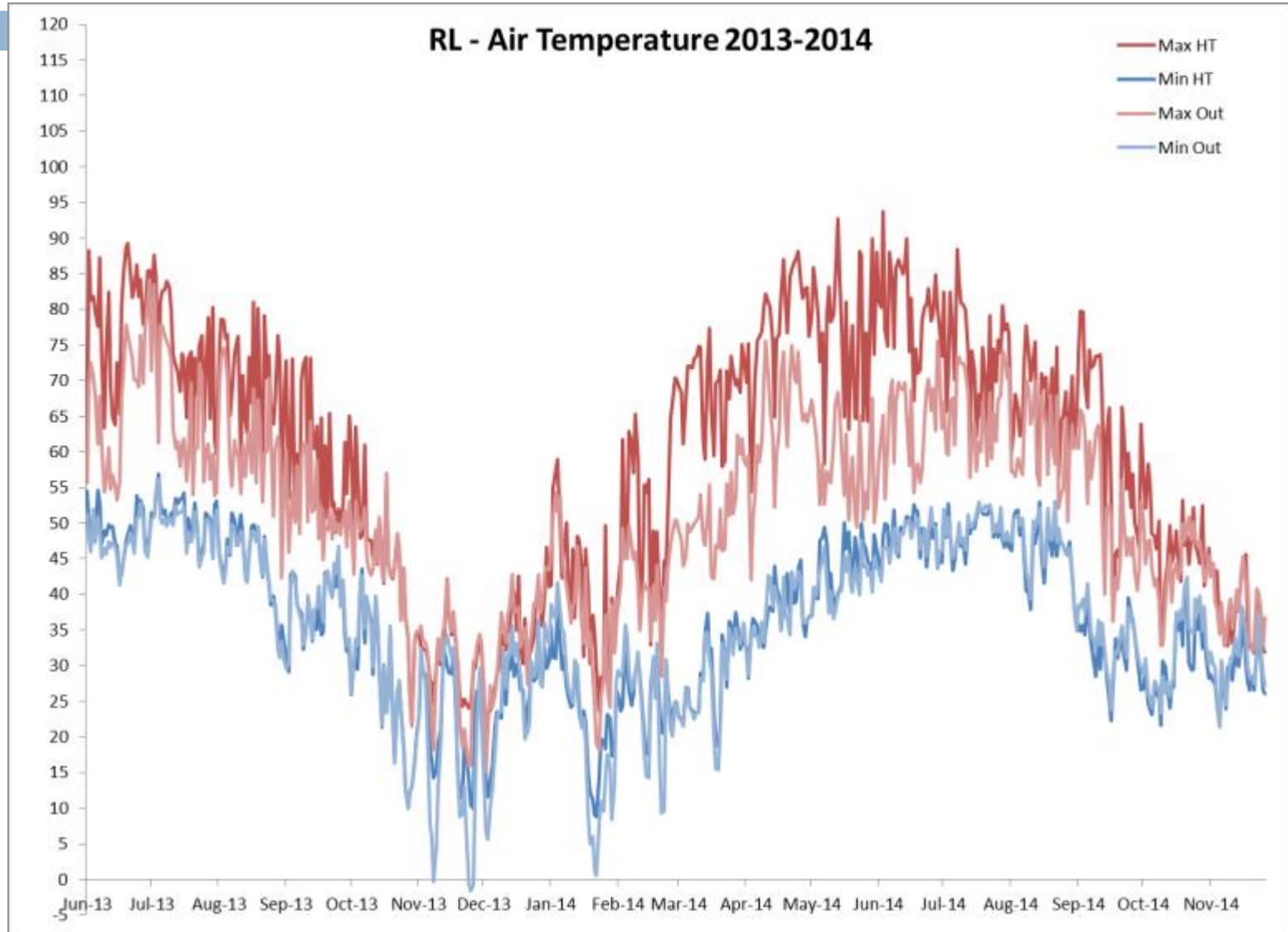
High Tunnels

High Tunnel	High/Low	Single/Double	Notes
EG	High	Single	Portion of inside soil lost
CR	High	Single	Lost outside soil
SP	High	Single	Lost portion of air data
KD	High	Double	Outside air fell
RL	Low	Single	No 2 nd year soil
TB	Low	Double	One year only, no inside soil. Only partial inside air
RM	Low	Single	One year only
LM	Low	Double	One year only
TA	Low	Single	Anchor Point
BJ	Low	Double	Anchor Point, no outside soil
GG	Low	Single	Anchor Point, 6 months only

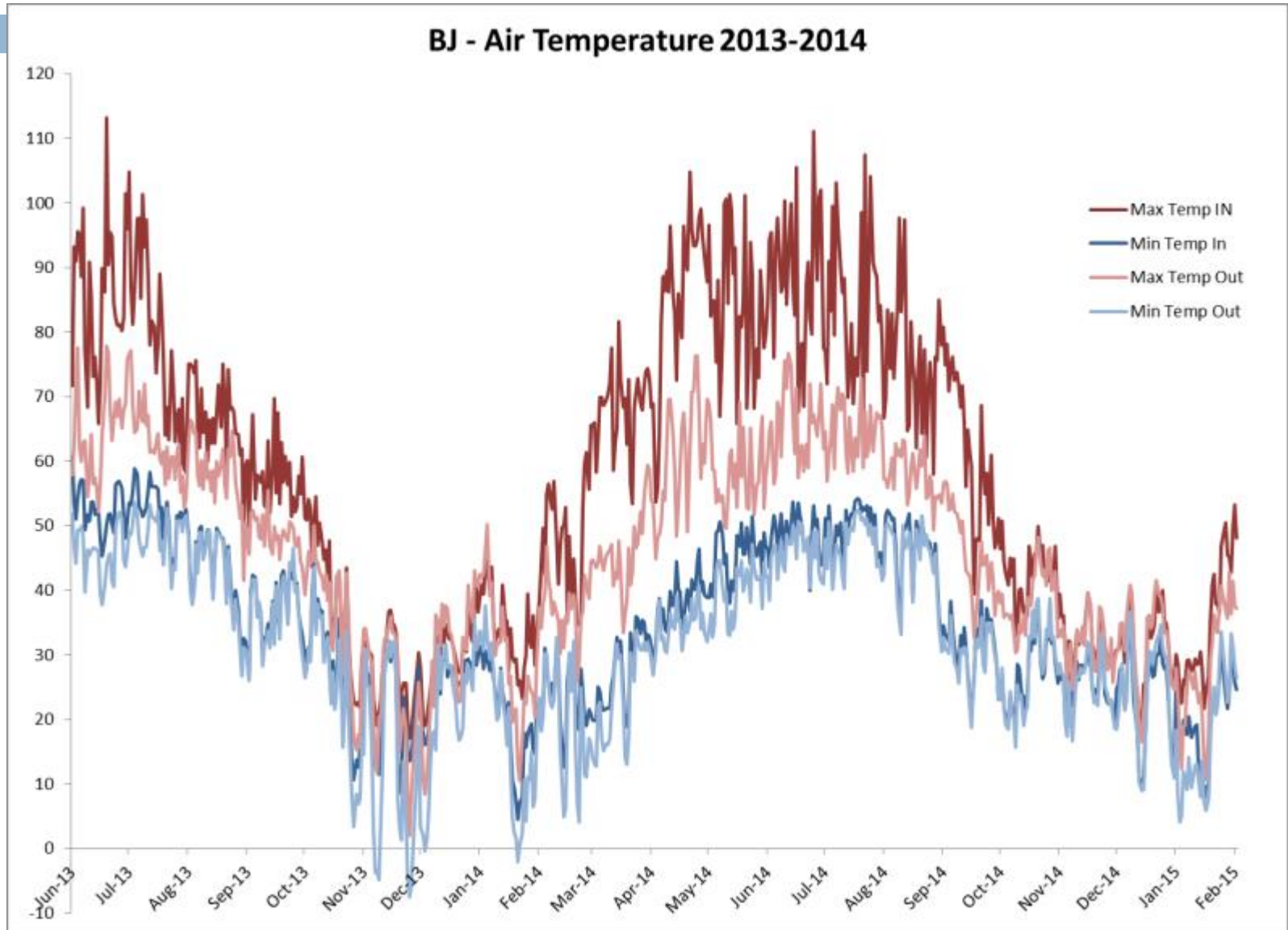
Baseline Temperatures



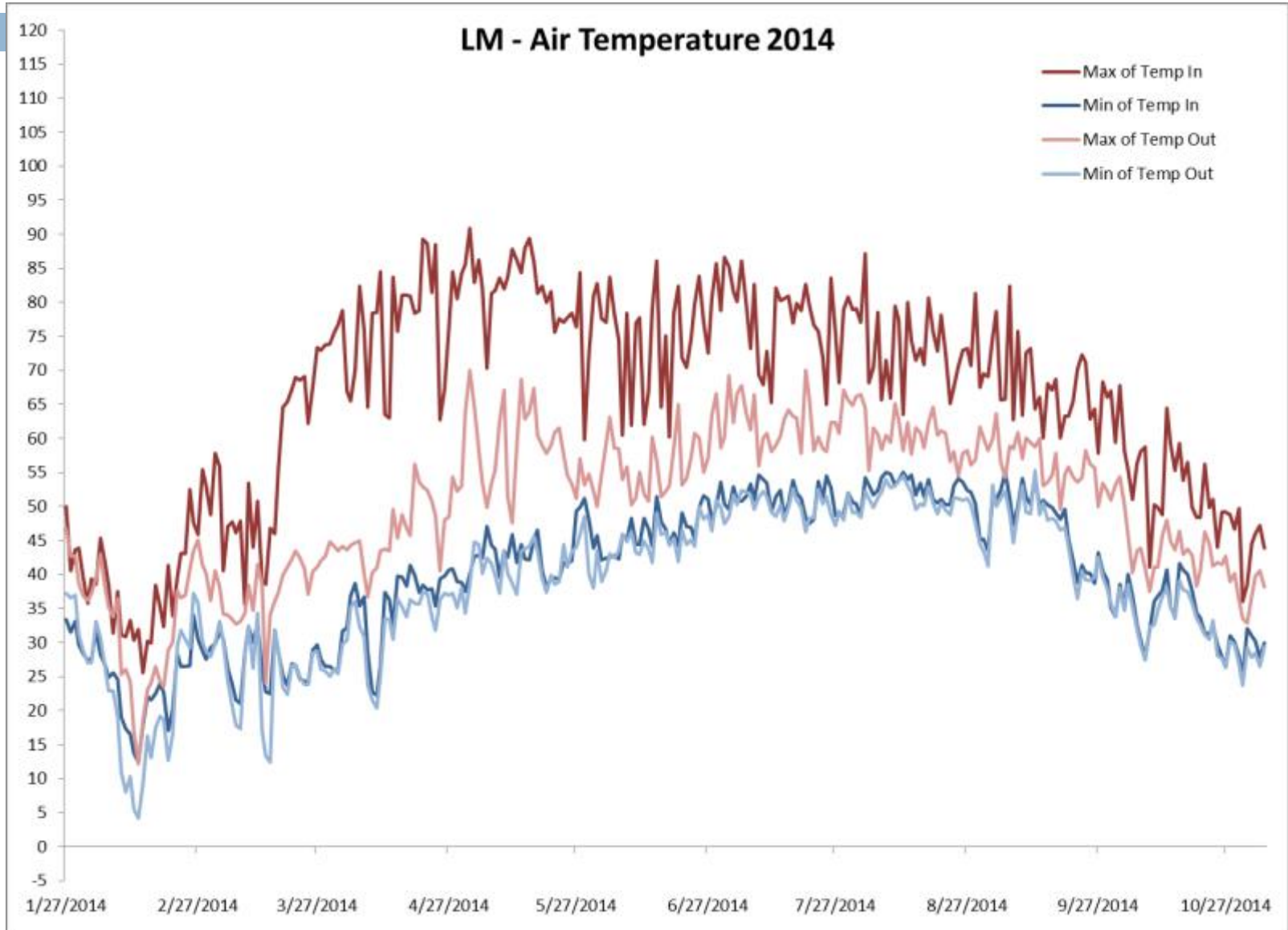
Baseline Temperatures



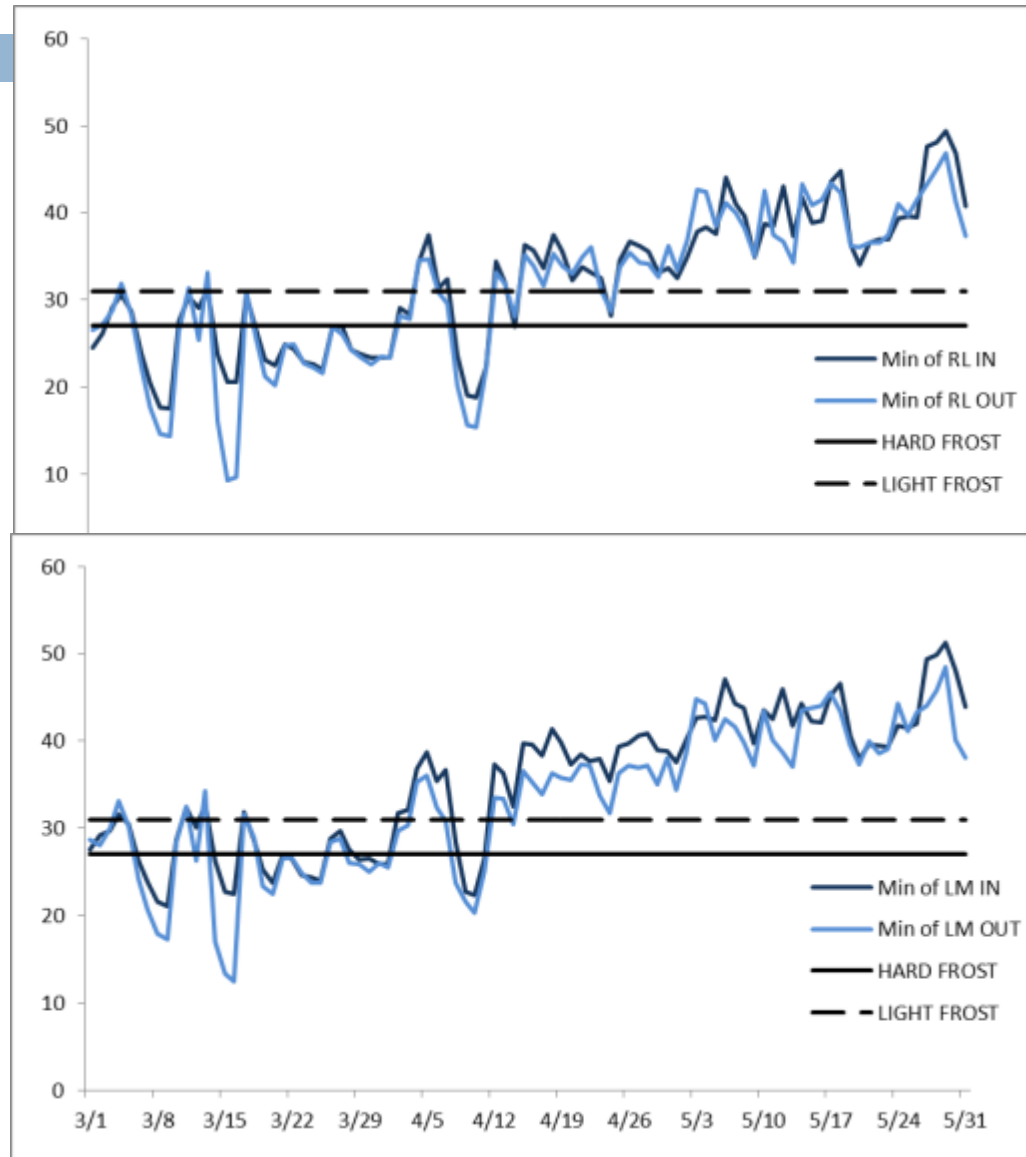
Baseline Temperatures



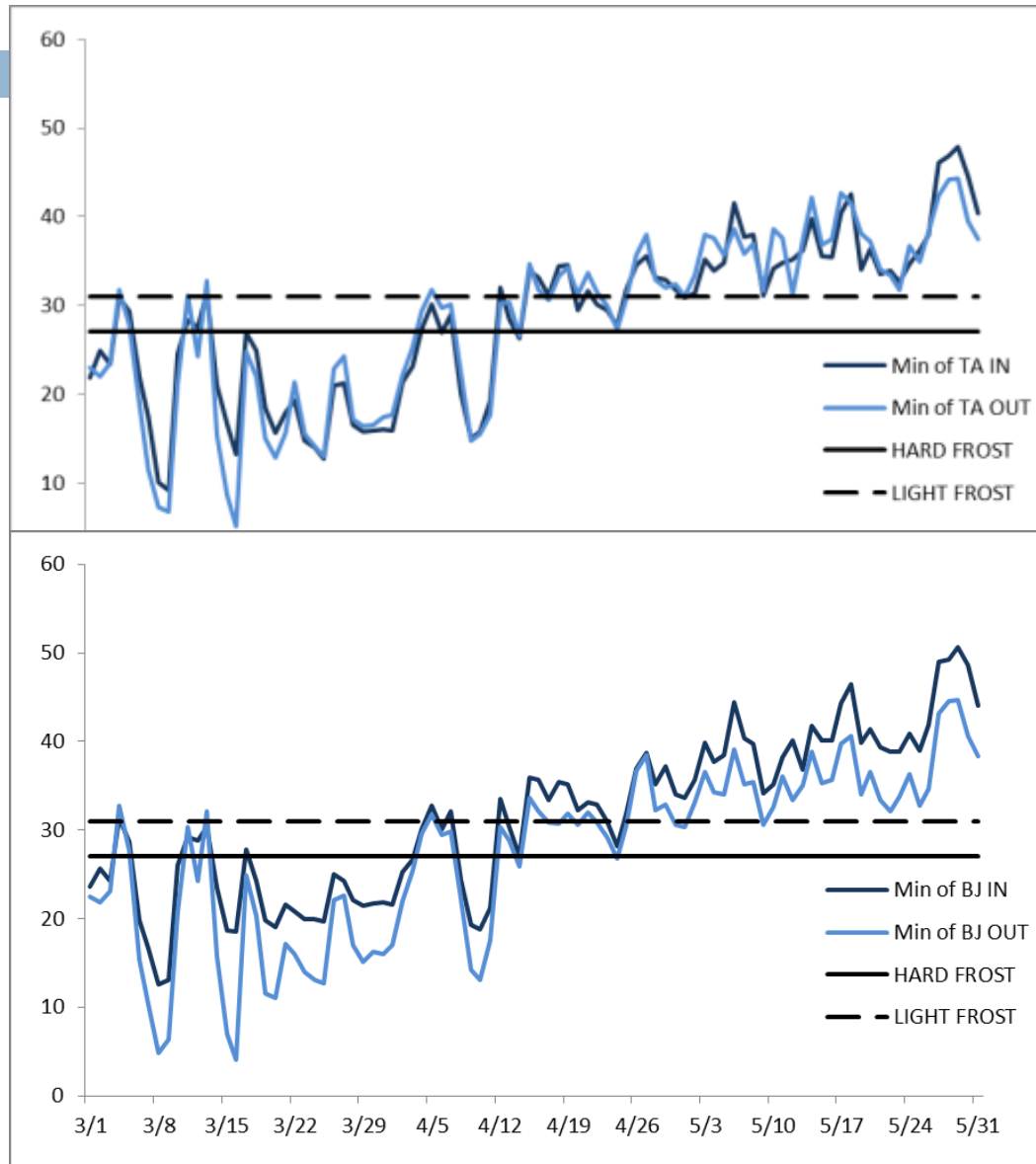
Baseline Temperatures



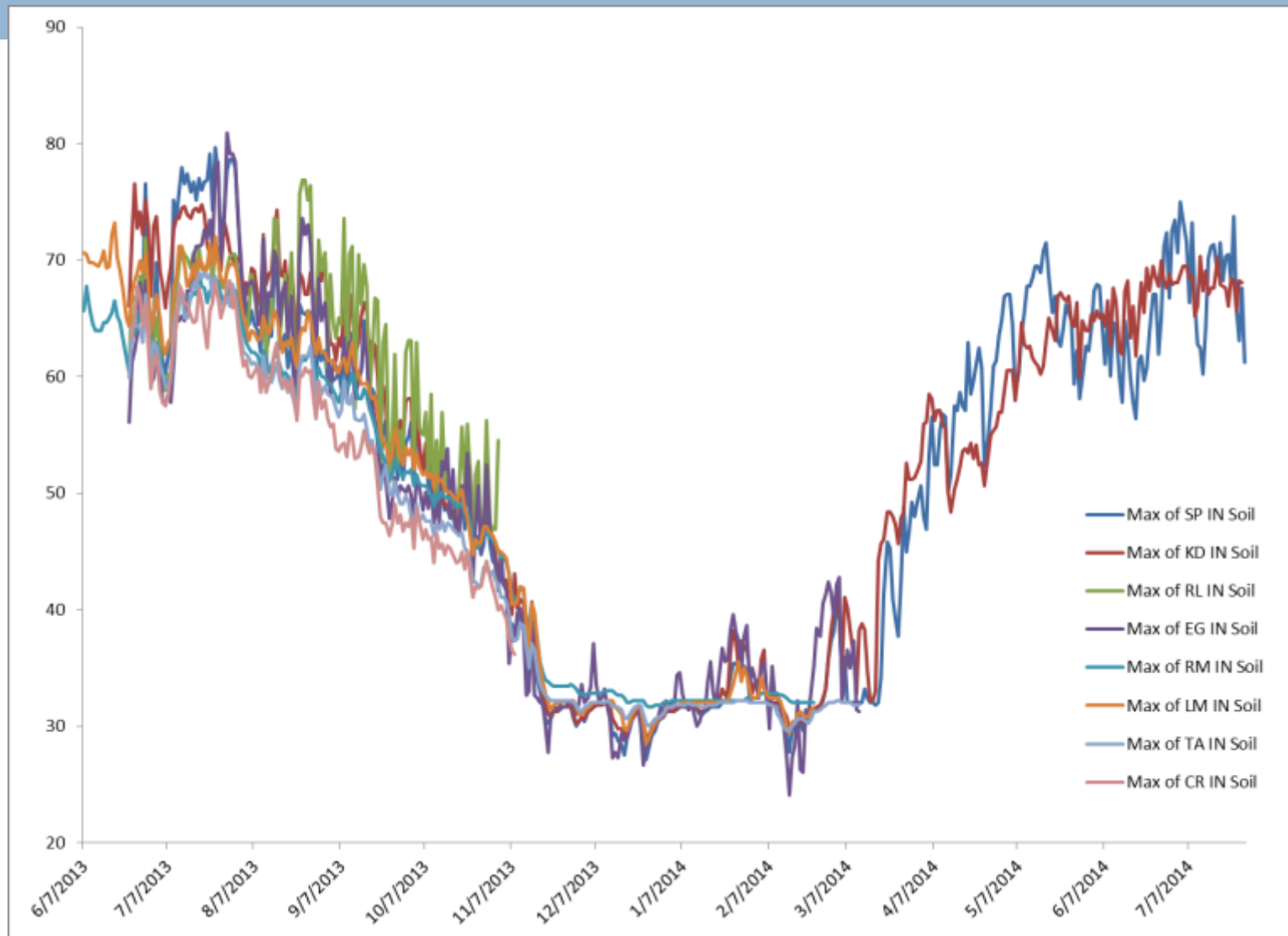
Single vs. Double



Single vs. Double

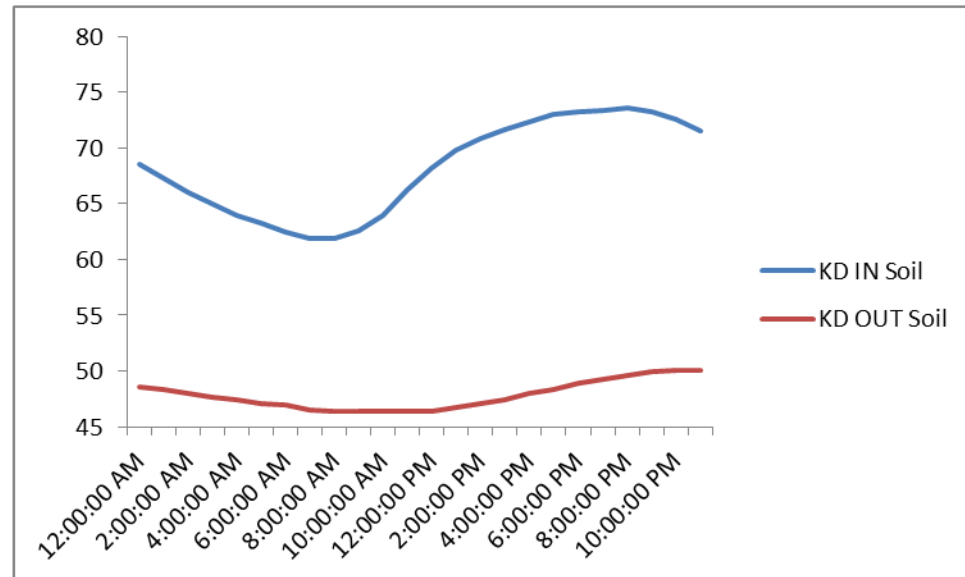
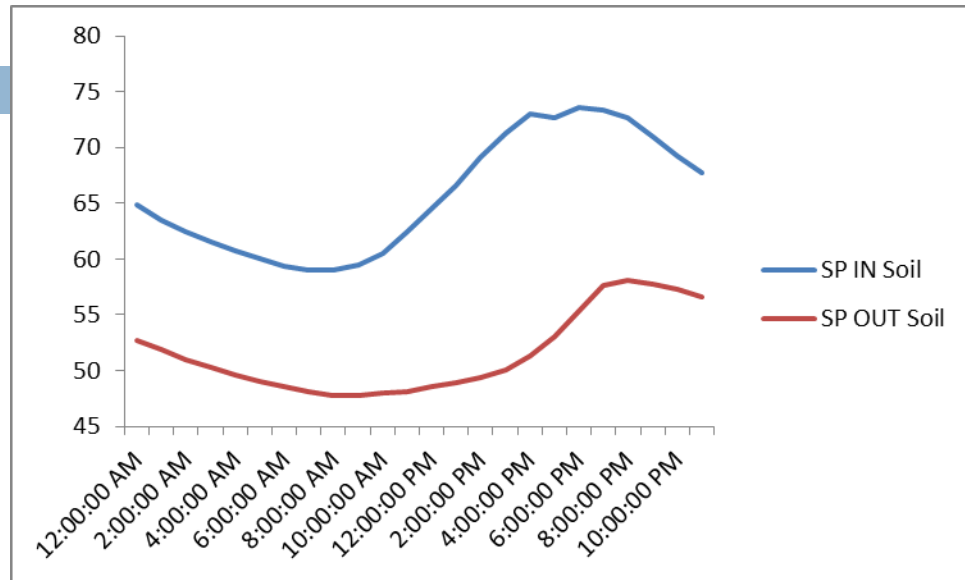


Soil Temps



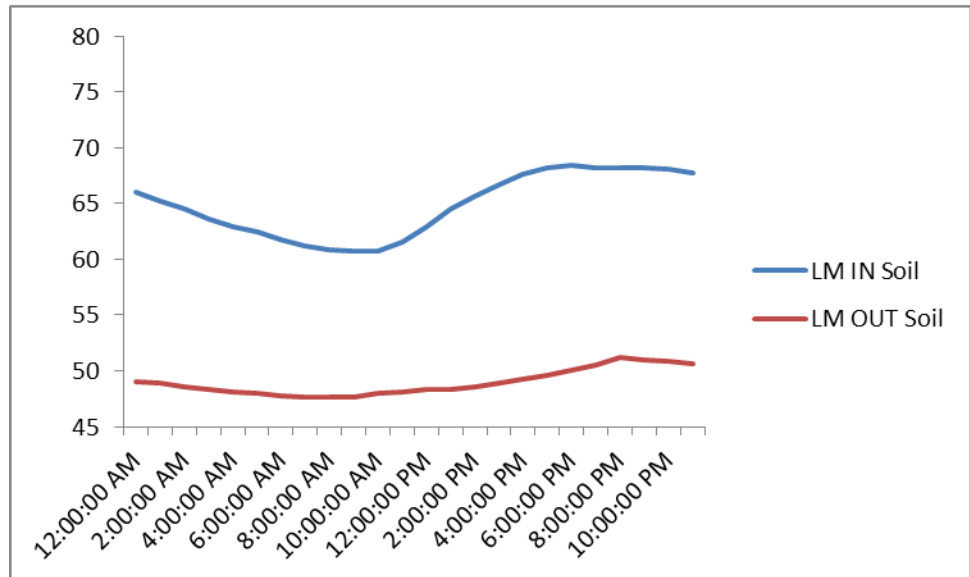
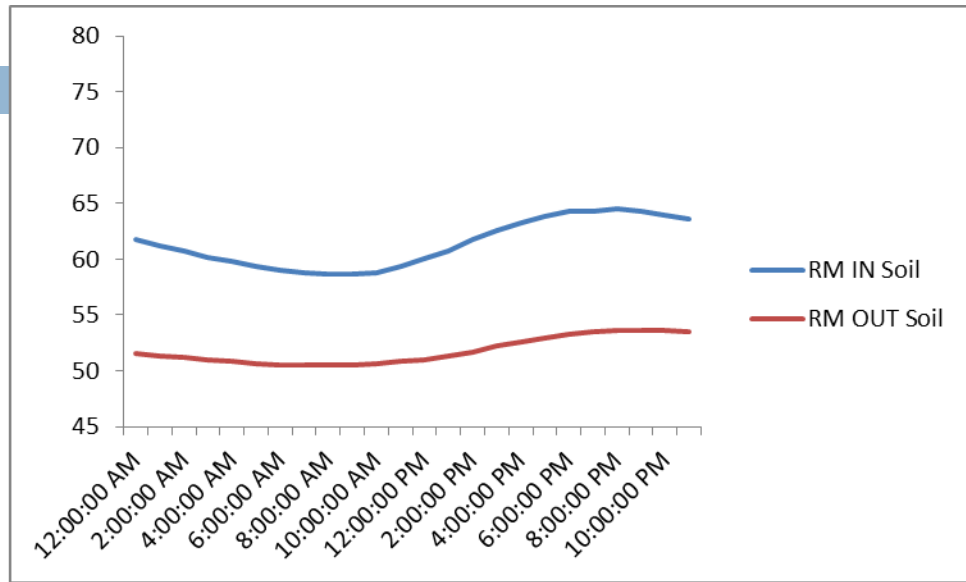
Soil Temps

July 10, 2013

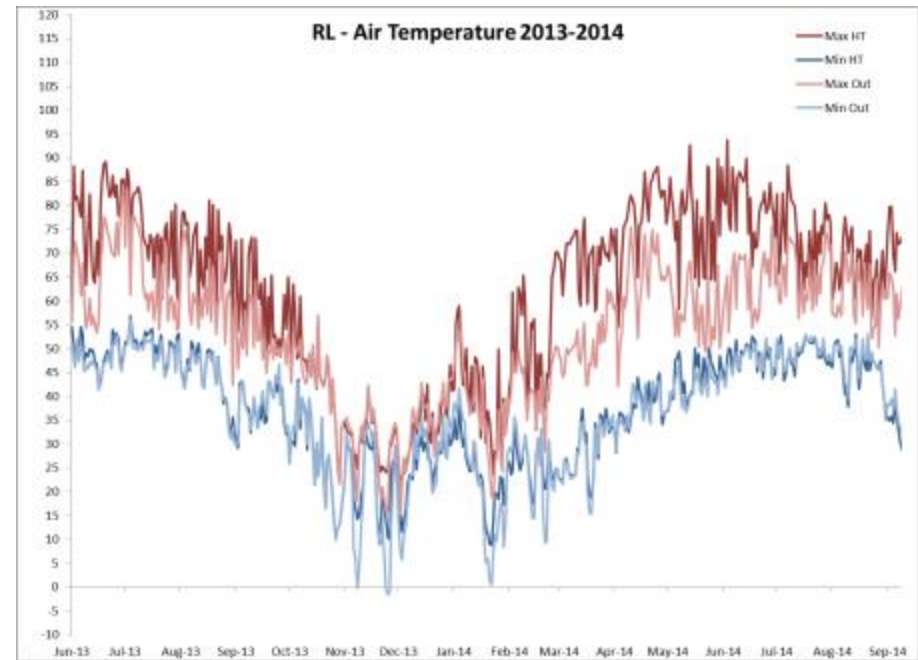
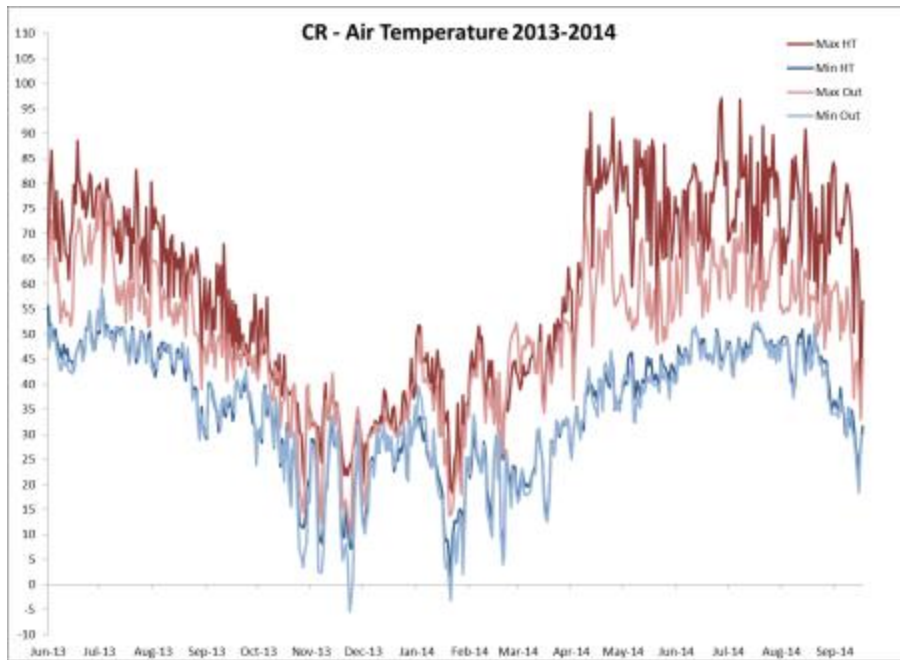


Soil Temps

July 10, 2013

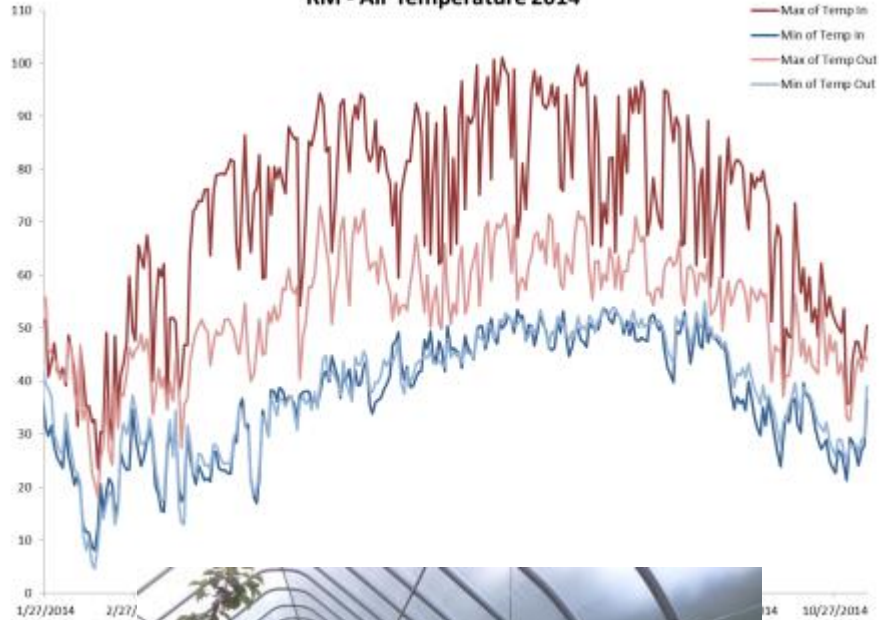


What's it all mean?

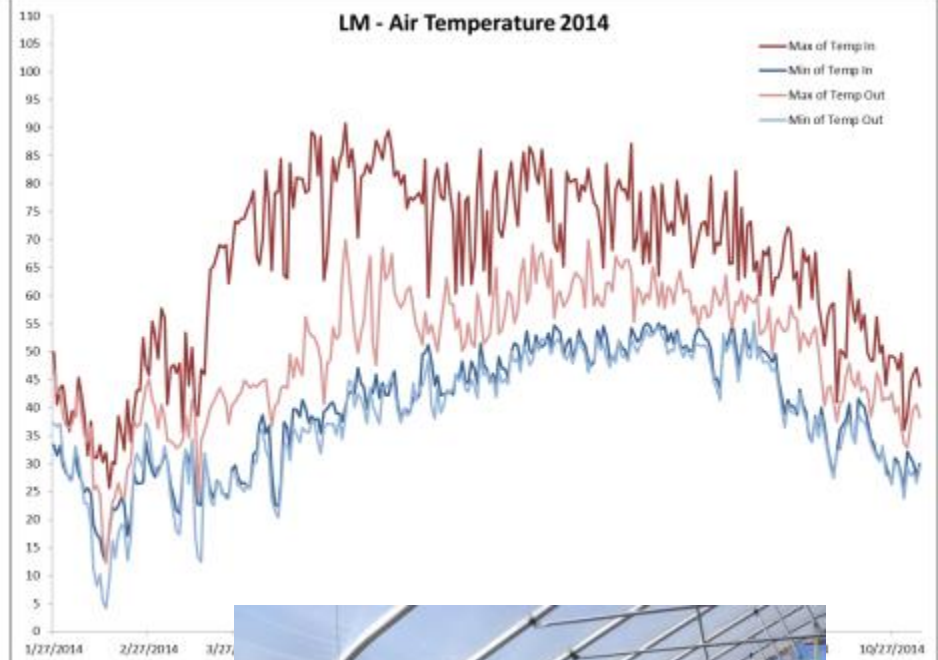


What's it all mean?

RM - Air Temperature 2014



LM - Air Temperature 2014



www.akhightunnels.org



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As more and more producers build and grow in high tunnels in Alaska, there is more to share and more questions to answer. This website is dedicated to sharing local experience, not necessarily scientific information. Don't bet your life on anything stated here, but know that everything comes from real life experiences.



This website project was funded by a grant from the Western Sustainable Agriculture Research and Education Program

Questions?

