
Pecan Management
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Current Drip Irrigation Schedule for Pecans

	Recommended Daily	*@ 30 gph/tree
April	7.5 hr	
May	8.5 hrs	
June	9.5 hrs	
July	11 hrs	
August	12 hrs	
September	12 hrs	

A Reduced Early-Season Irrigation Schedule for Pecans

	Reduced	**Recommended**
	Every other day	Daily
April	4 hrs	7.5 hr
May	6 hrs	8.5 hrs
June	8 hrs	9.5 hrs
July	10 hrs	11 hrs
August	12 hrs*	12 hrs
September	12 hrs*	12 hrs

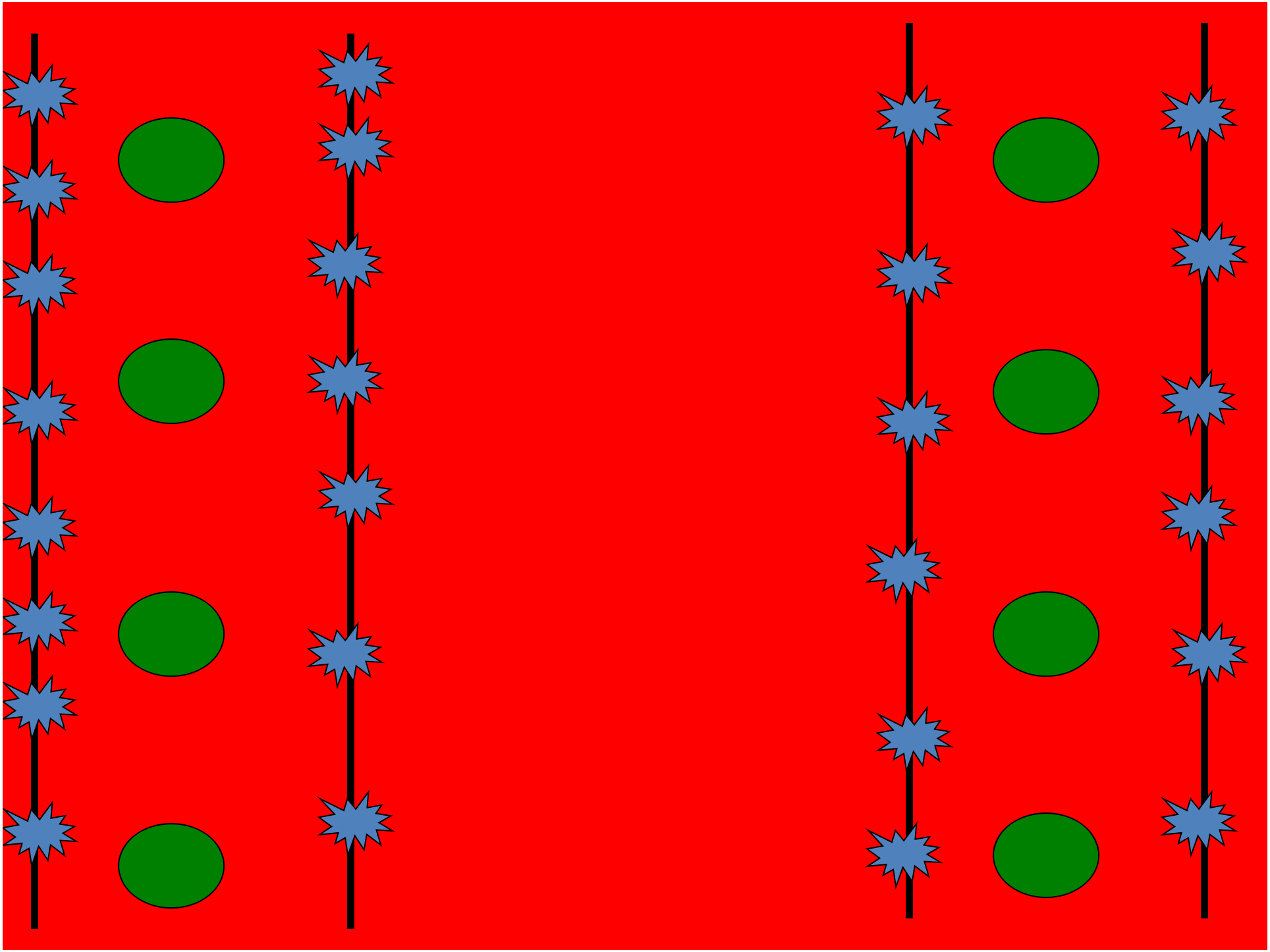
Two 15 gph microjets per tree (Total of 30 gph per tree)
25 Year old Stuart trees on Tifton Loamy Sand in Berrien CO., GA

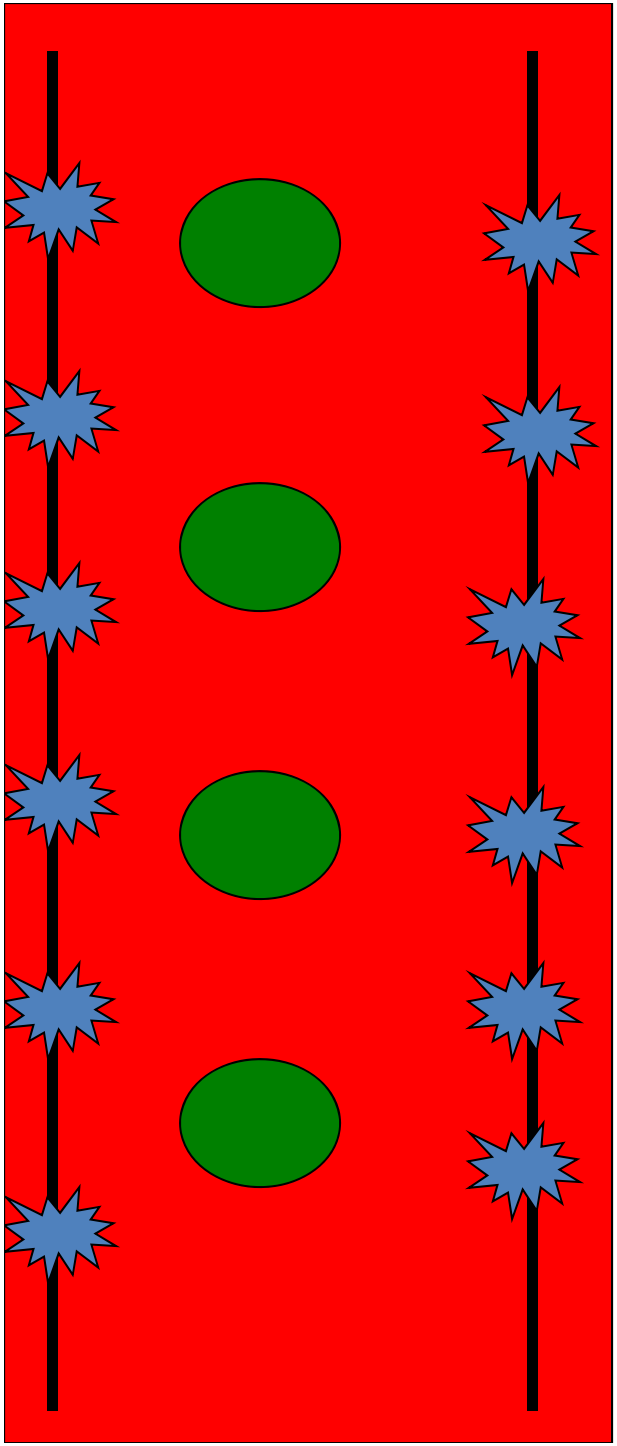
*All trees irrigated daily in August/September

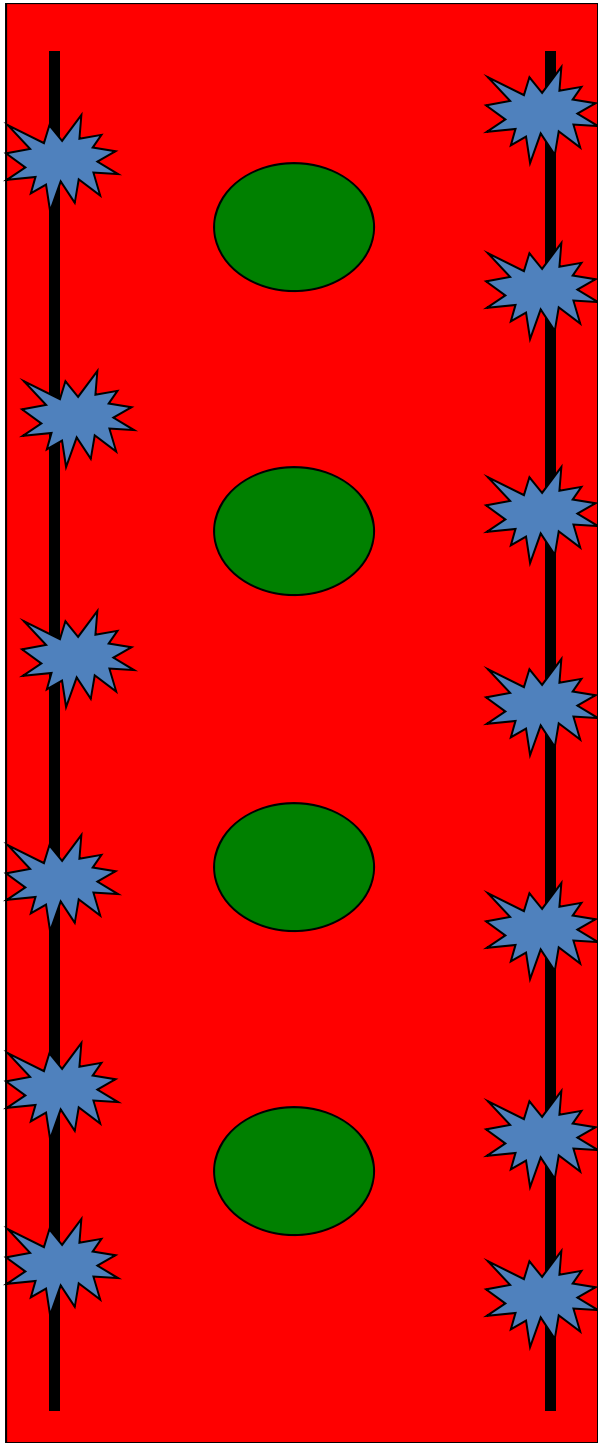
Effects on Yield, Nut Quality, and Shoot Length

Treatment	Yield (lbs/tree)	Nuts/lb	% Kernel	Shoot Length
Recommended	81a	50.2a	46.5a	4.2a
Reduced	62a	47b	46.5a	3.5b
Non-Irrigated	49b	50.4a	44.8a	3.1b

The Reduced Irrigation Schedule provides a ***38% Reduction*** in irrigation water use with no significant effect on tree water stress, yield, or quality







Field Rate Vs. Treated Area

Treatment		Field rate (lbs/acre)	Treated area rate (lbs/acre)		Field rate (lbs/acre)	Treated area rate (lbs/acre)
Injection		18	70		31	125
Broadcast		70	70		125	125
Broadcast Band		18	70		31	125
Herb. Sprayer		18	70		31	125
Control		0	0		0	0

Fertilizer Application Method

Effect on Leaf N

Treatment	Leaf N 2008	Leaf N 2009	Leaf N 2010 (%)	Leaf N 2011	Leaf N 2012
Simulated Injection 28-0-0-5	2.98a	2.94a	2.73a	2.55a	2.69a
Broadcast Band Ammon. Nitrate	2.89ab	2.80a	2.52b	2.46ab	2.57a
Broadcast Ammon. Nitrate	2.85b	2.89a	2.60b	2.46ab	2.64a
Liquid N Herbicide Sprayer 28-0-0-5	2.80b	2.96a	2.42c	2.37b	2.52ab
Control	---	2.84a	2.42c	2.34c	2.37b

2008-2011 N rate for all treatments = 70 lbs/treated acre
2012 N rate = 125 lbs/acre

Funded by GACCP

Fertilizer Application Method

Effect on Yield

Treatment	Yield 2008 (lbs/tree)	Yield 2009 (lbs/tree)	Yield 2010 (lbs/tree)	Yield 2011 (lbs/tree)	Yield 2012 Average (lbs/tree)
Simulated Injection 28-0-0-5	129.6a	128a	134a	4.97b	193a
Broadcast Band Ammon. Nitrate	107.8a	144a	98b	10.9ab	166a
Broadcast Ammon. Nitrate	107.5a	176a	105ab	27.5a	148a
Liquid N Herbicide Sprayer 28-0-0-5	152.9a	115a	124ab	2.38b	151a
Untreated Control	---	152a	86b	0c	77b

2008-2011 N rate for all treatments = 70 lbs/treated acre

2012 N rate = 125 lbs/acre

Funded by GACCP

Agronomic N Use Efficiency (lbs nuts/acre/lbs N applied)*

Treatment	2008	2009	2010	2011	2012
Injection	118a	118a	123a	4.5c	99a
Broadcast	24b	39b	23b	6bc	18b
Broadcast Band	99a	133a	90a	10ab	85a
Herb. Sprayer	141a	106ab	114a	3c	78a
Control	---	---	---	---	---

Current N Recommendation for Pecans

- *Pecans can be fertilized with a significantly lower field rate of N than is currently used if applications are directed toward tree row with irrigation and weed control*

- 100-125 lbs N per acre (*treated area rate*) directed toward herbicide strip only
- Split with 60-75% applied in April; remainder in June or late August
- Increase by 25% on sandy soils

Banding Zn, P, and K

- Band Zn @4-5 **lbs/tree**
- Band K at 8 **lbs/tree**
- Band P at 100-120 **lbs/acre**
- Make applications over drip emmiters or in wet zone of microsprinklers

- Band Zn on opposite side of tree from P and K

Banding is a useful tool when uptake is a problem

Foliar Sulfur Trial

2011	Percent Kernel	Nut Weight	Count
Sulfur 1 qt/100 g	50.7a	9.7a	47.0b
Urea 4 lbs/100g	50.2a	9.2b	49.2a
Sulfur+Urea	50.2a	9.5ab	47.6b
Untreated	50.6a	9.2b	49.2a

2012	Percent Kernel	Nut Weight	Count
Sulfur 1 qt/100 g	52.7a	11.2a	40.8b
Urea 4 lbs/100g	52.4a	9.9b	46.3a
Sulfur+Urea	53.1a	10.2ab	44.4ab
Untreated	52.9a	10.4ab	43.7ab

2,4-D and Dicamba Resistant Crops & Pecans

- Technology will be available for cotton in 2016
- What will these herbicides do to a pecan tree?
- Issues:
  - Labeling
    - Low volatility formulation
    - Wind Directional Buffers????????
  - Risks
    - History of poor judgement
    - Will producers consistently follow label directions?
  - Needs
    - Planting buffers around sensitive crops (i.e. pecan orchards)