

Site Type Initiative

Paired Plot Density Management (PPDM) Trials



D E N S I T Y	PRODUCTIVITY			
	Site I RD 20	Site II RD 20	Site III RD20	Site IV RD 20
Site I RD 40	Site II RD 40	Site III RD 40	Site IV RD 40	
Site I RD 60	Site II RD 60	Site III RD 60	Site IV RD 60	

Site Type Matrix

D E N S I T Y Low ↓ High	PRODUCTIVITY Low → High			
	Site I RD Low	Site II RD Low	Site III RD Low	Site IV RD Low
	Site I RD Med	Site II RD Med	Site III RD Med	Site IV RD Med
	Site I RD High	Site II RD High	Site III RD High	Site IV RD High

Relative Density (RD)

$RD = BA / (QMD^{1/2})$ (Curtis 1982)

$RD \leq 35$

$35 > RD < 60$

$RD \geq 60$

Productivity

10-Year (10YR) Height Segment

Site I = 10YR \leq 18'

Site II = 19' \geq 10YR \leq 22'

Site III = 23' \geq 10YR \leq 26'

Site IV = 10YR \geq 27'

Site Selection - Sample Design

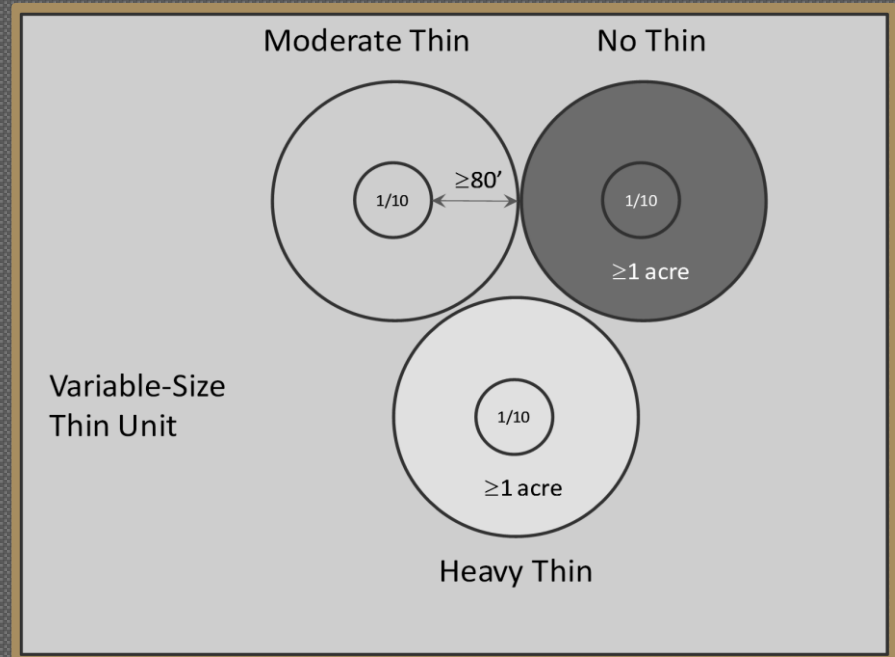
100-150 PCT Stands (10-30YO)

Install 20+ Sites/Year

3 Species - DF, PP, WL

Tri-Plot Design:

- 1 No Thin (Control)
- 1 Moderate Thin and 1 Heavy Thin - Range 10' (436 TPA) - 18' (134 TPA)



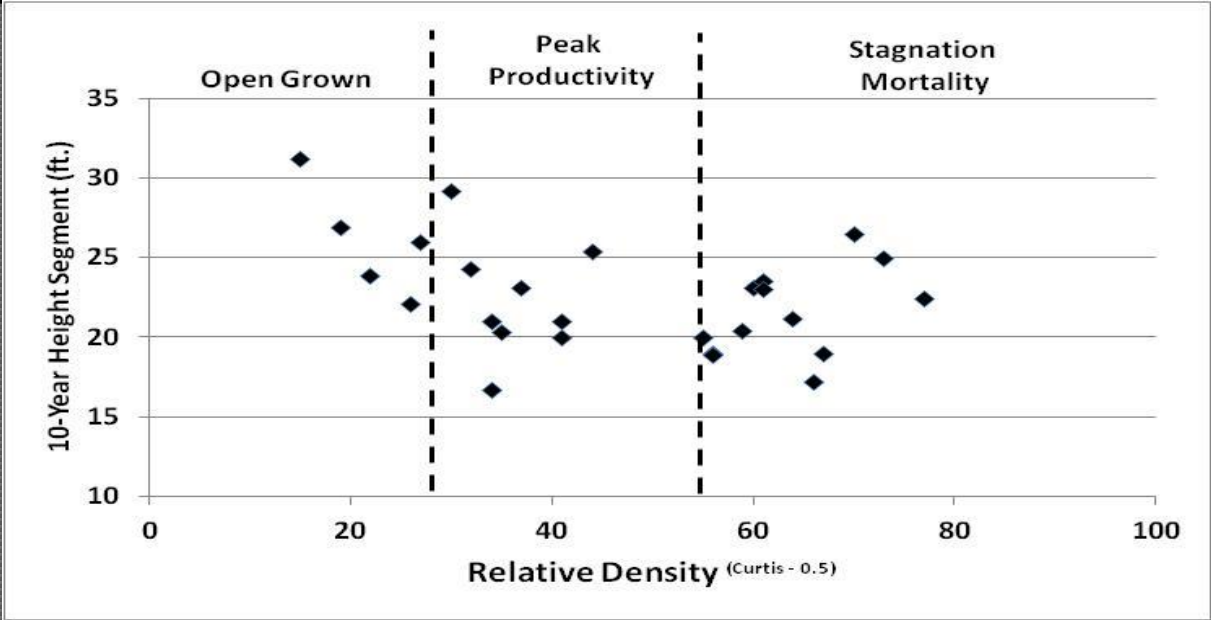
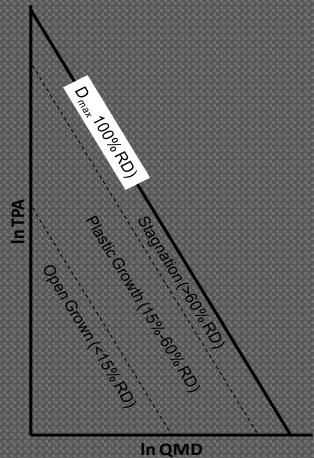
2013-2015 PPDM Site Locations



Douglas-fir PPDM Matrix

		Douglas-fir Productivity Index - 10 Year Height Segment			
		10YR \leq 18'	19' \geq 10YR \leq 22'	23' \geq 10YR \leq 26'	10YR \geq 27'
DENSITY INDEX Relative Density (Curtis)	RD \leq 35	1	3	2	4
	RD 36-60	3	5	3	1
	RD \geq 61	0	1	3	1

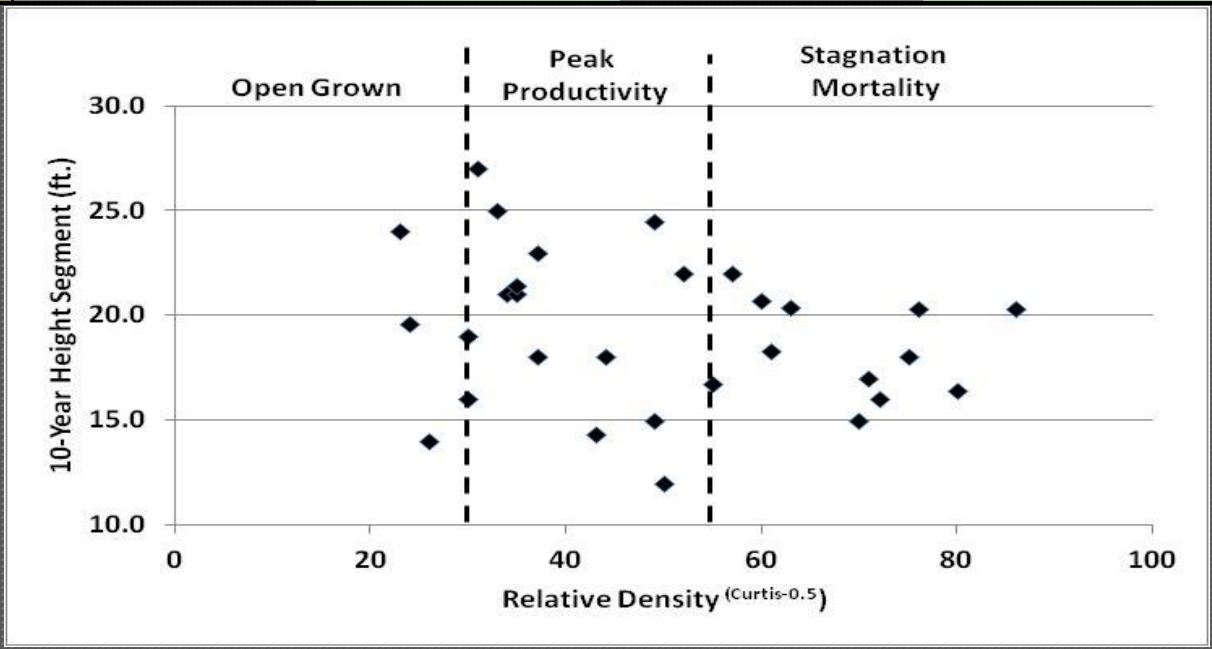
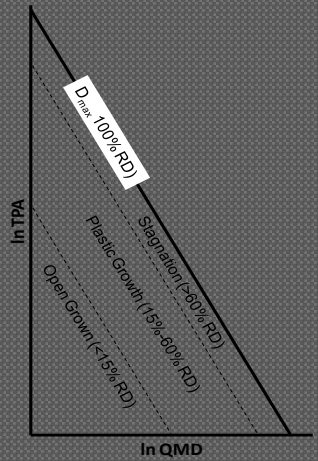
2013 - 2015
27 Douglas-fir Sites



Ponderosa Pine PPDM Matrix

		Ponderosa Pine Productivity Index - 10 Year Stem Height Segment			
		10YR \leq 18'	19' \geq 10YR \leq 22'	23' \geq 10YR \leq 26'	10YR \geq 27'
DENSITY INDEX Relative Density (Curtis)	RD \leq 35	3	5	2	1
	RD 36-60	5	5	2	0
	RD \geq 61	5	4	0	0

2014 - 2015
32 Ponderosa Pine Sites



Western Larch PPDM Matrix

Western Larch Productivity Index - 10 Year Stem Height Segment

10YR \leq 18' 19' \geq 10YR \leq 22' 23' \geq 10YR \leq 26' 10YR \geq 27'

RD \leq 35

0

0

3

1

DENSITY INDEX
Relative Density
(Curtis)

RD 36-60

0

1

2

0

RD \geq 61

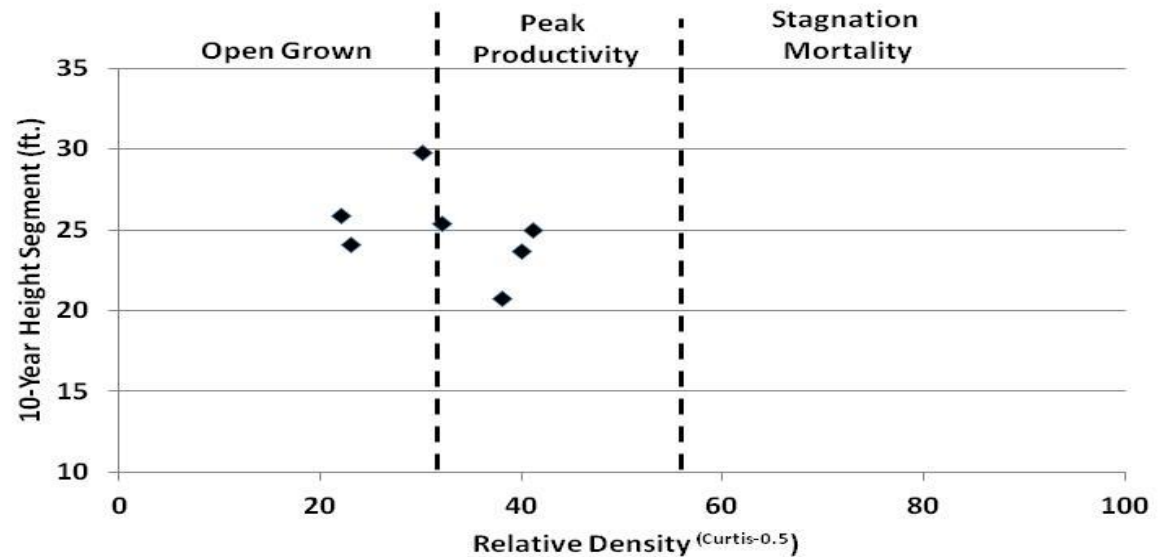
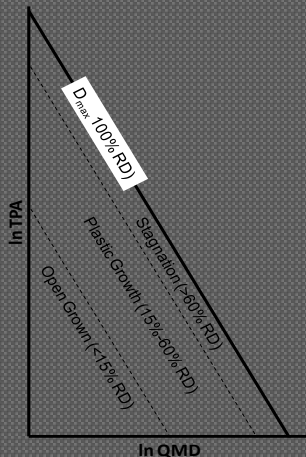
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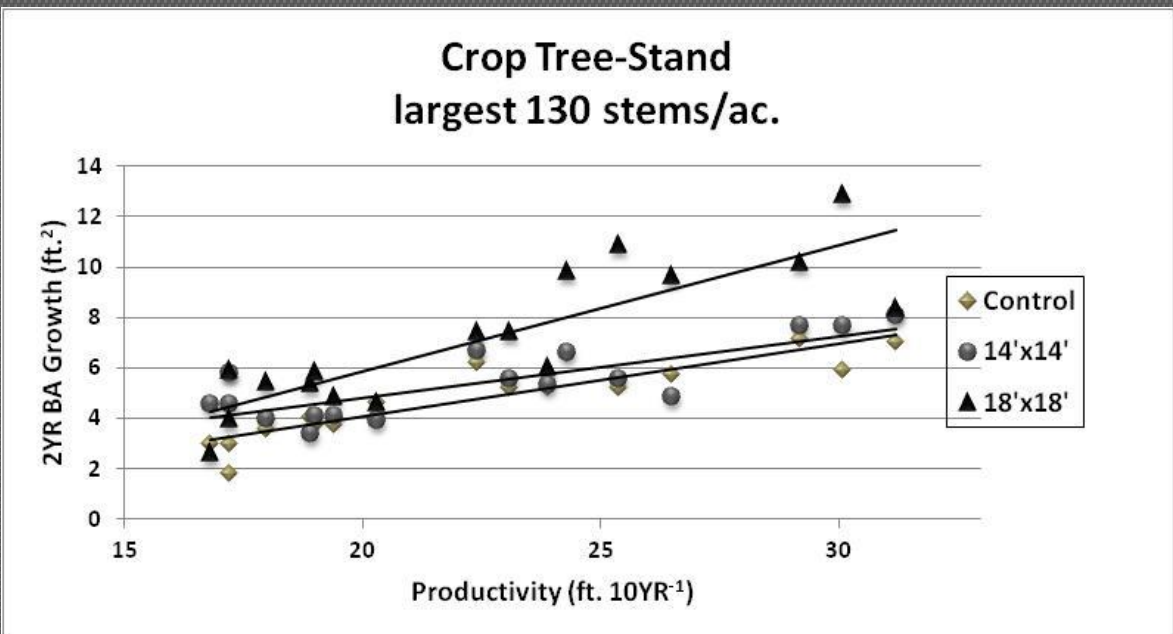
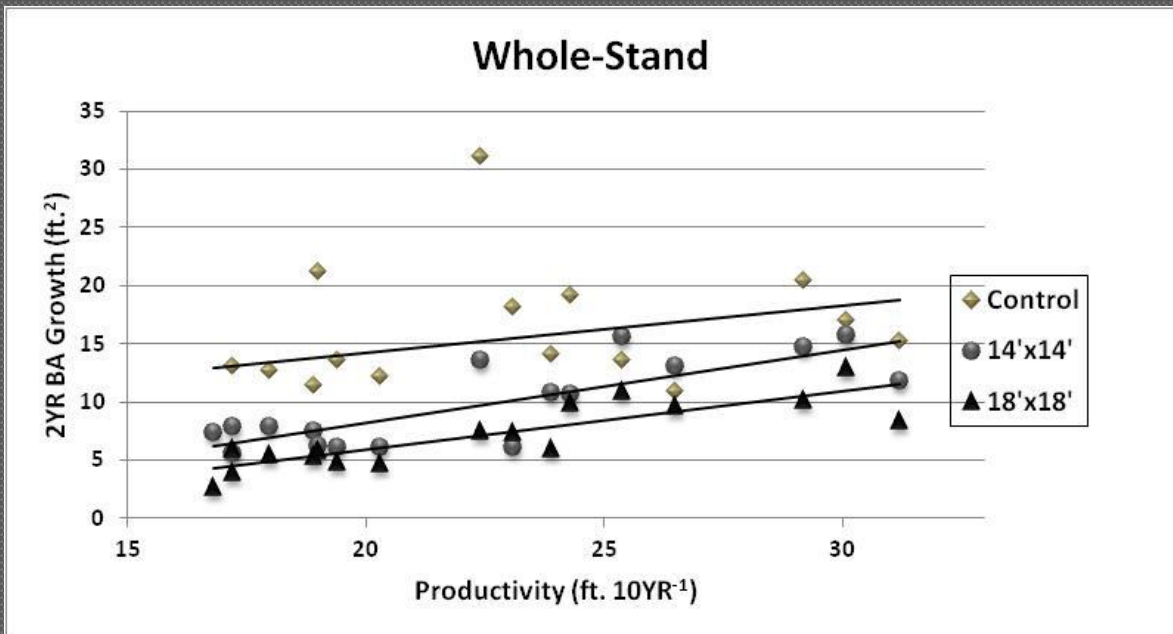
2015
7 Western Larch Sites



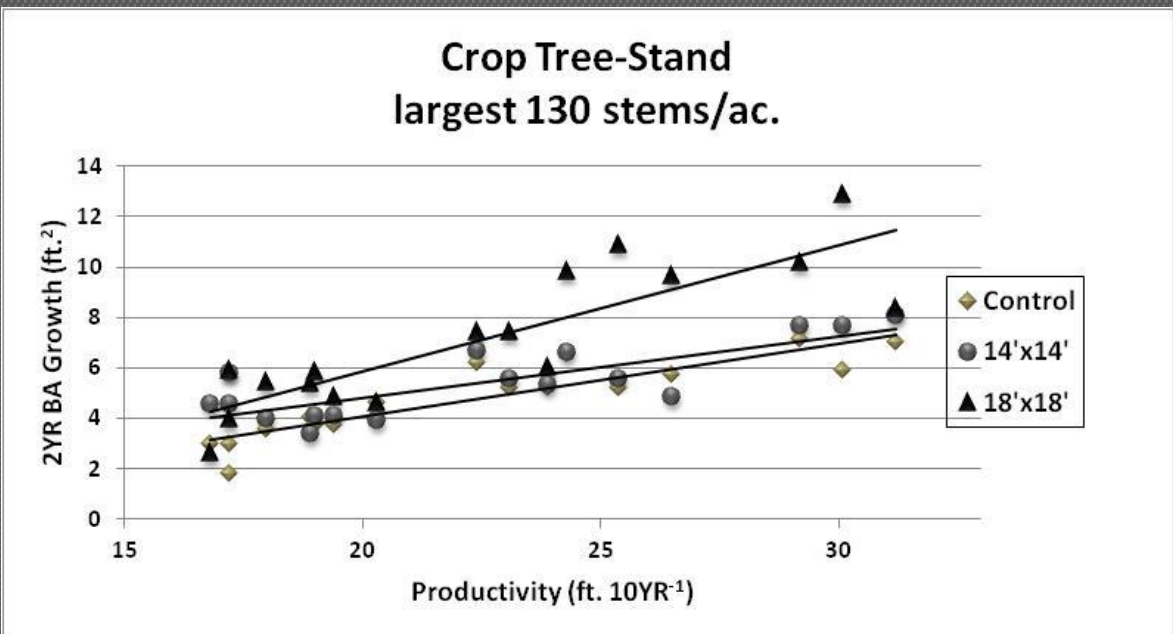
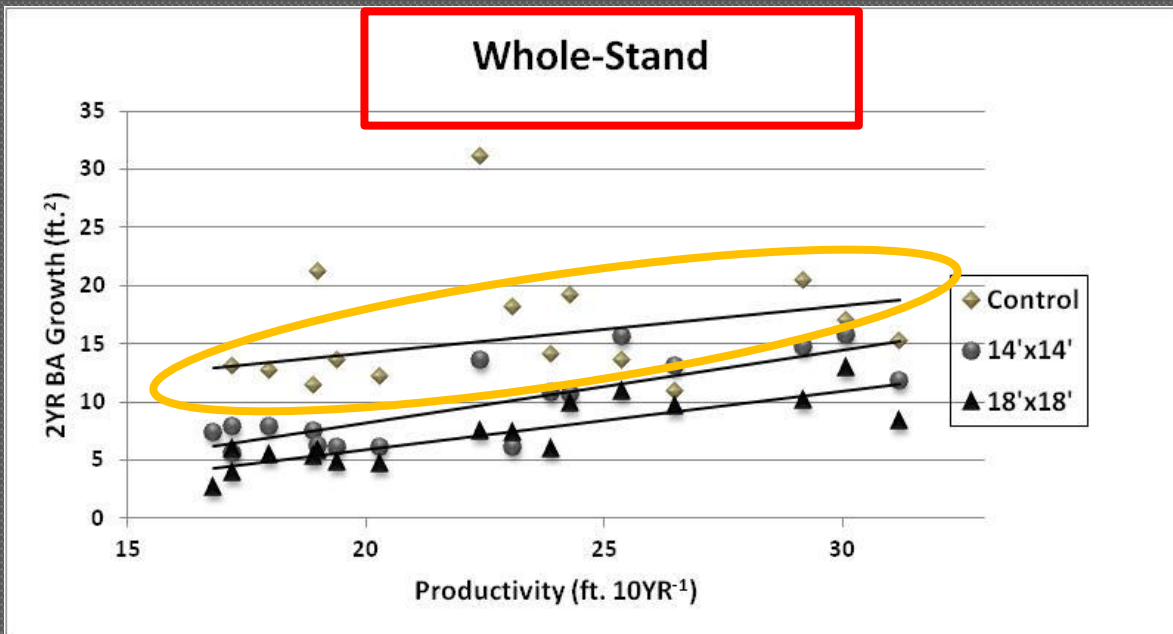
2013 DF PPDM Sites

Site	10YR_HT_INC	DF_%BA	BA/AC	RD ^(0.5)	TPA	QMD	SDI ^(1.31)	IFC_maxSDI	% maxSDI
Alder	25.4	93	113	43	450	6.8	272	397	68
Bedbug	23.9	67	34	22	700	3.2	157	376	42
BZ Corner	30.1	100	94	37	430	6.3	235	422	56
Camp 9	23.1	62	87	60	3640	2.1	471	378	125
Cottonwood	18.9	66	111	58	1240	4.1	386	357	108
Fisher	31.2	98	28	15	410	3.5	104	415	25
Freeman	22.4	68	124	77	3360	2.6	575	410	140
Horse 11	20.3	67	60	35	1330	2.9	263	445	59
Horse 14	19.4	43	62	37	1510	2.7	272	476	57
Kentry 1	17.2	81	89	59	3090	2.3	451	352	128
Kentry Last	18.0	69	63	37	1370	2.9	271	381	71
Microfish	19.0	57	77	56	3810	1.9	433	413	105
Mtn View 1	16.8	98	96	45	840	4.6	304	301	101
Rat Creek	24.3	77	95	47	870	4.5	306	368	83
Ruby Basin	26.5	66	169	70	930	5.8	456	367	124
Skookum	29.2	99	65	30	500	4.9	196	414	47

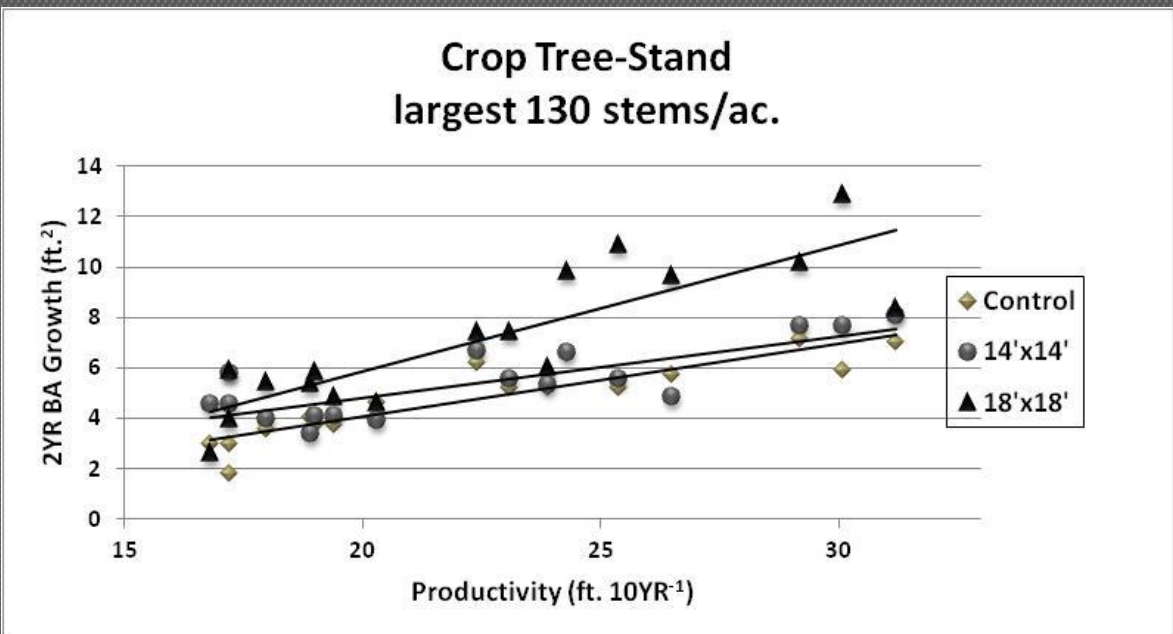
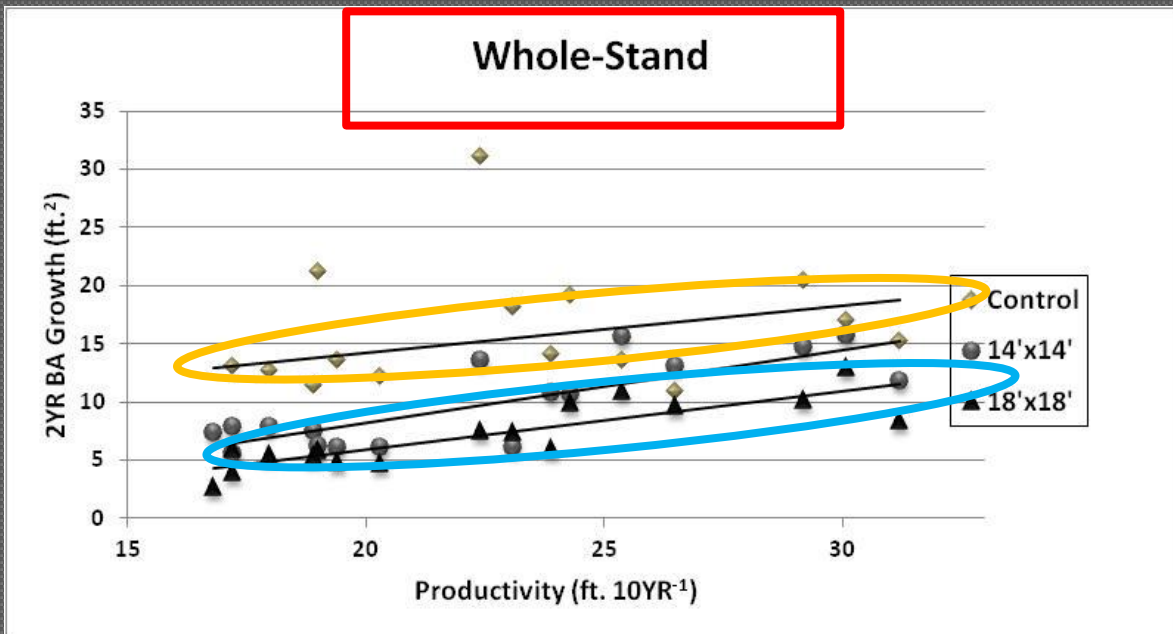
2013 2YR DF Growth by Productivity



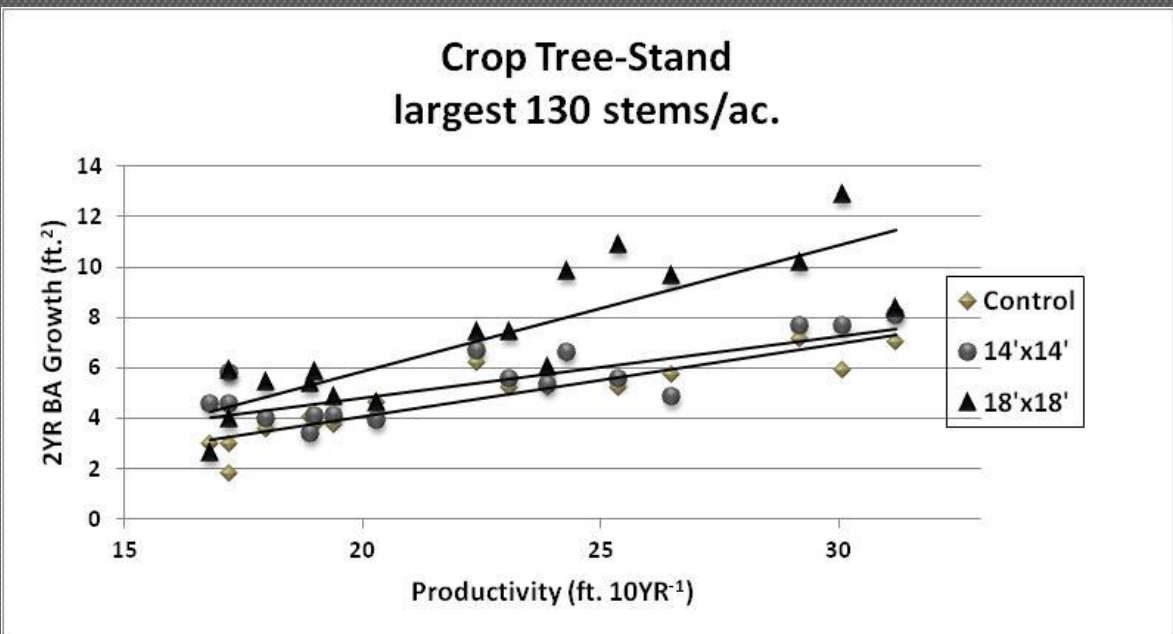
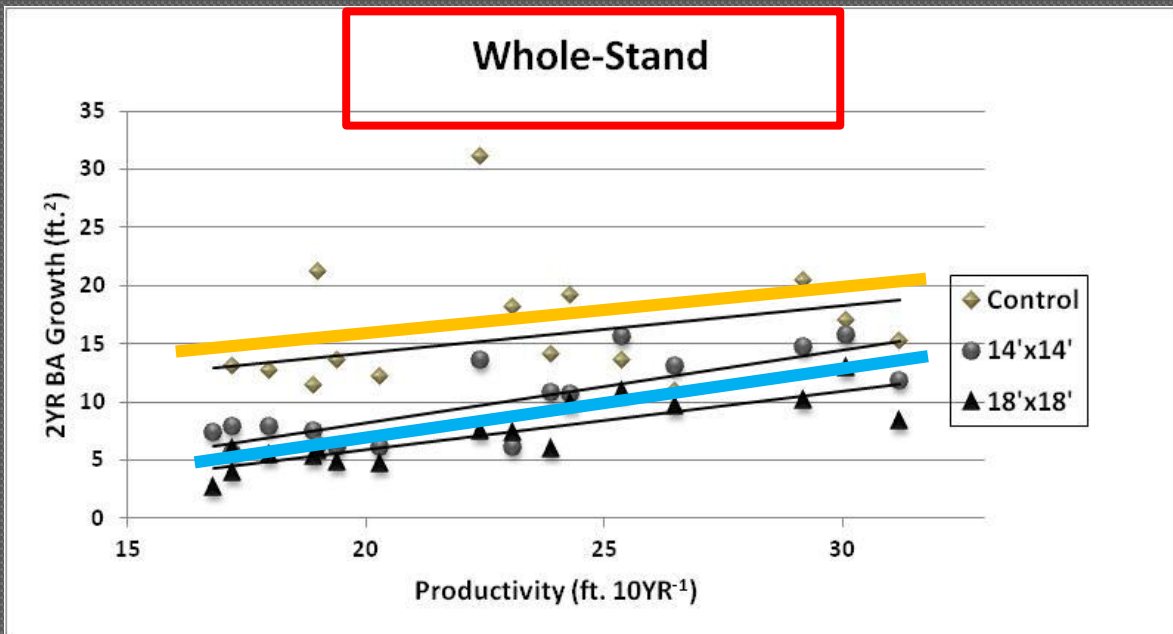
2013 2YR DF Growth by Productivity



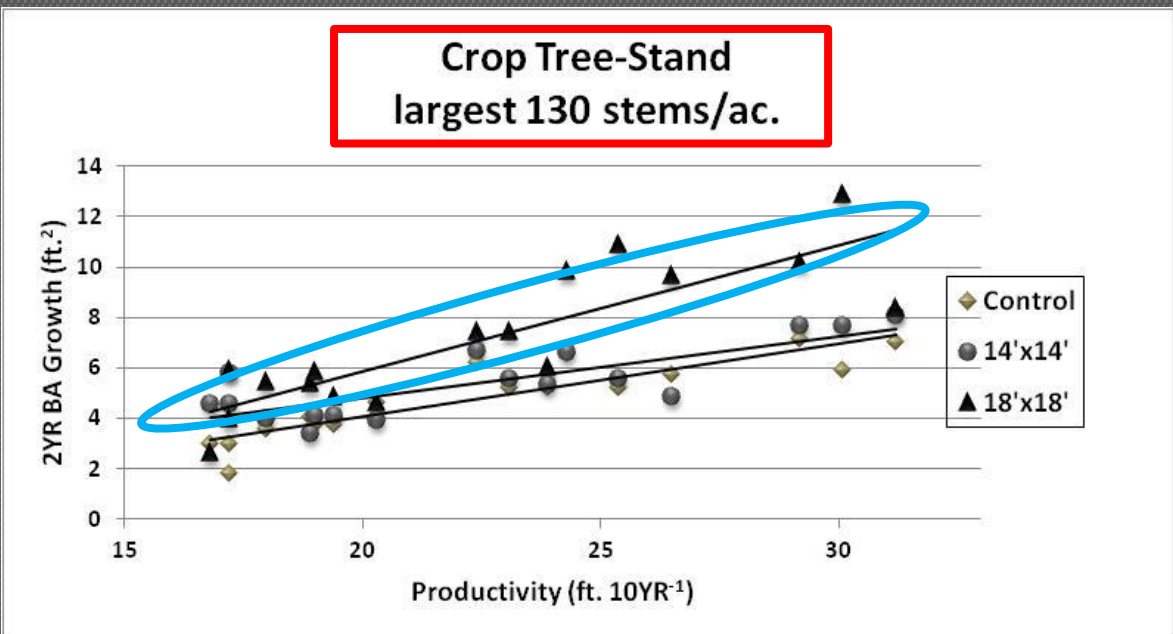
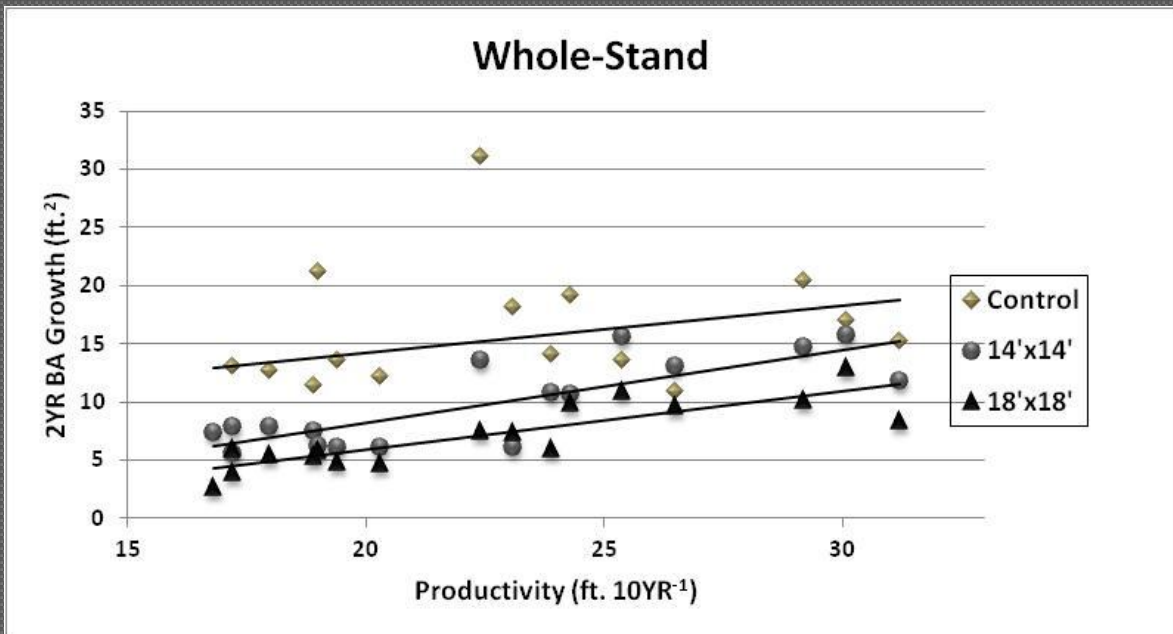
2013 2YR DF Growth by Productivity



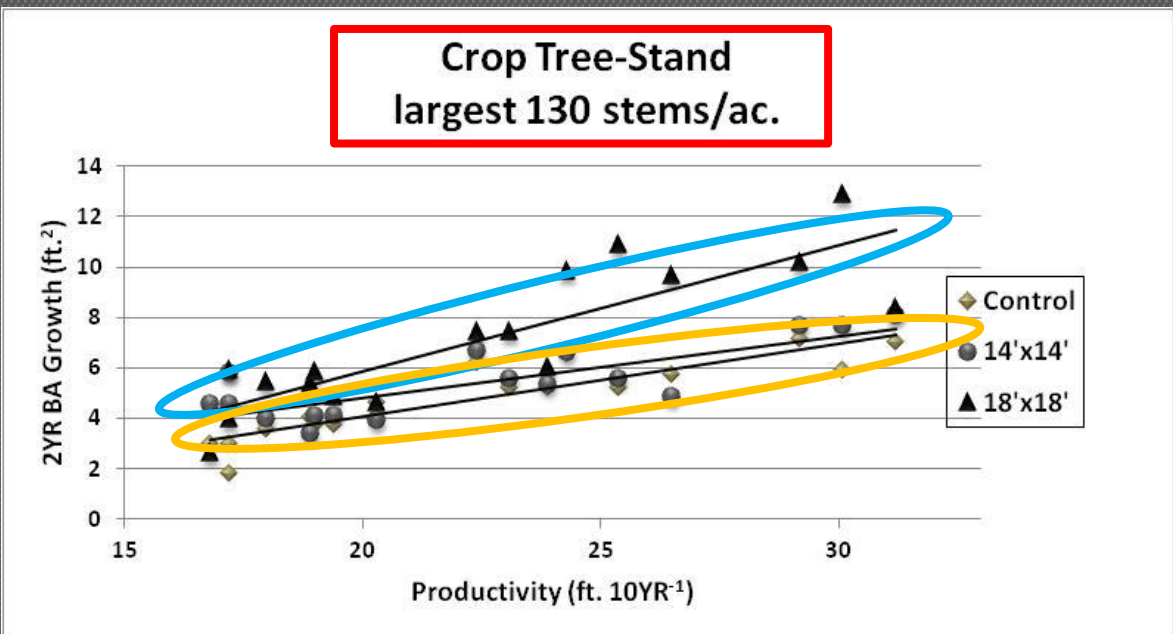
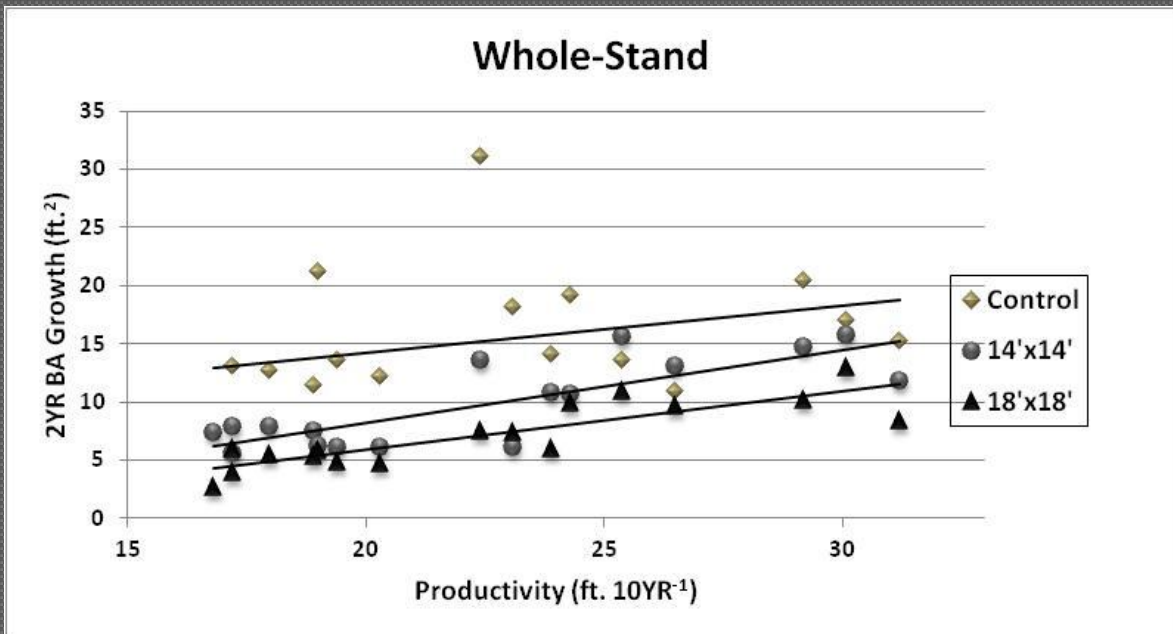
2013 2YR DF Growth by Productivity



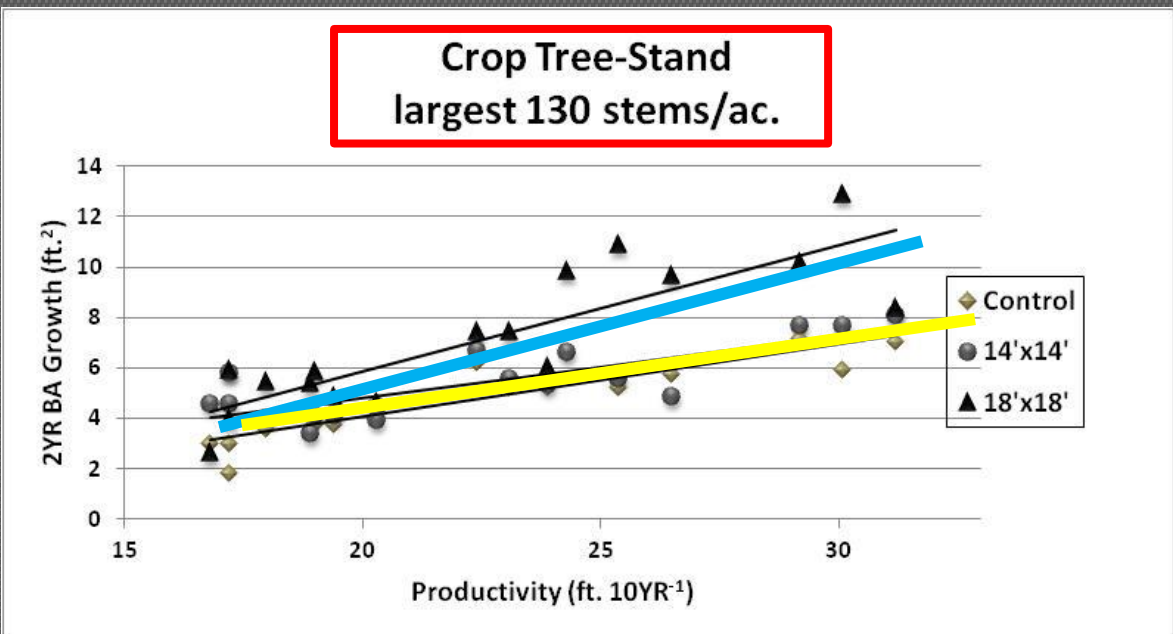
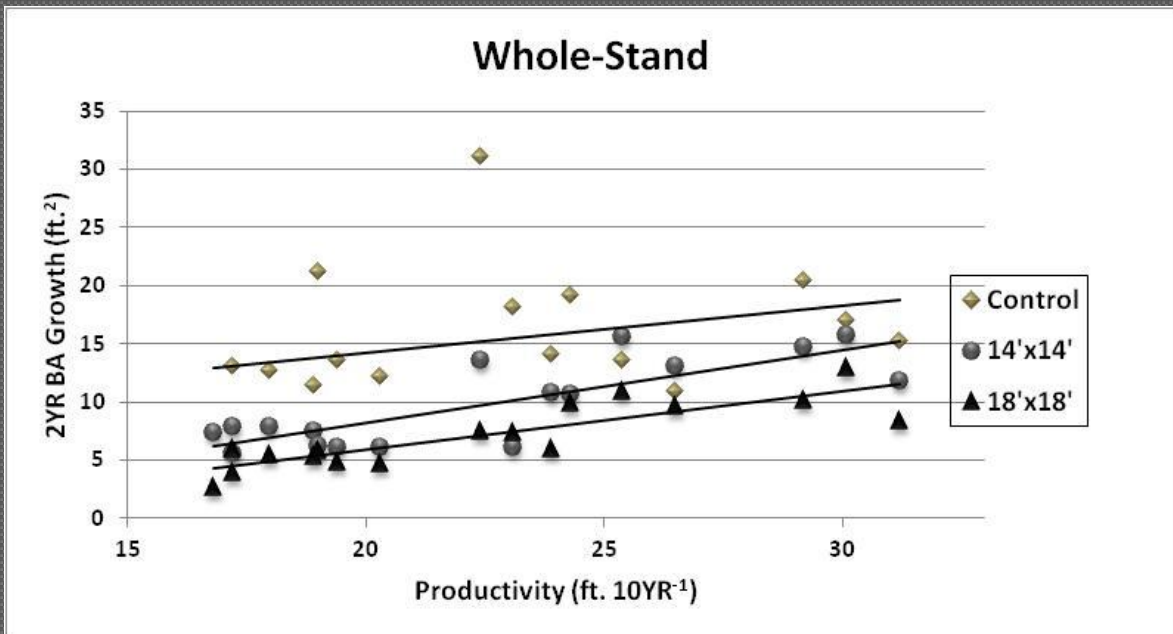
2013 2YR DF Growth by Productivity



2013 2YR DF Growth by Productivity



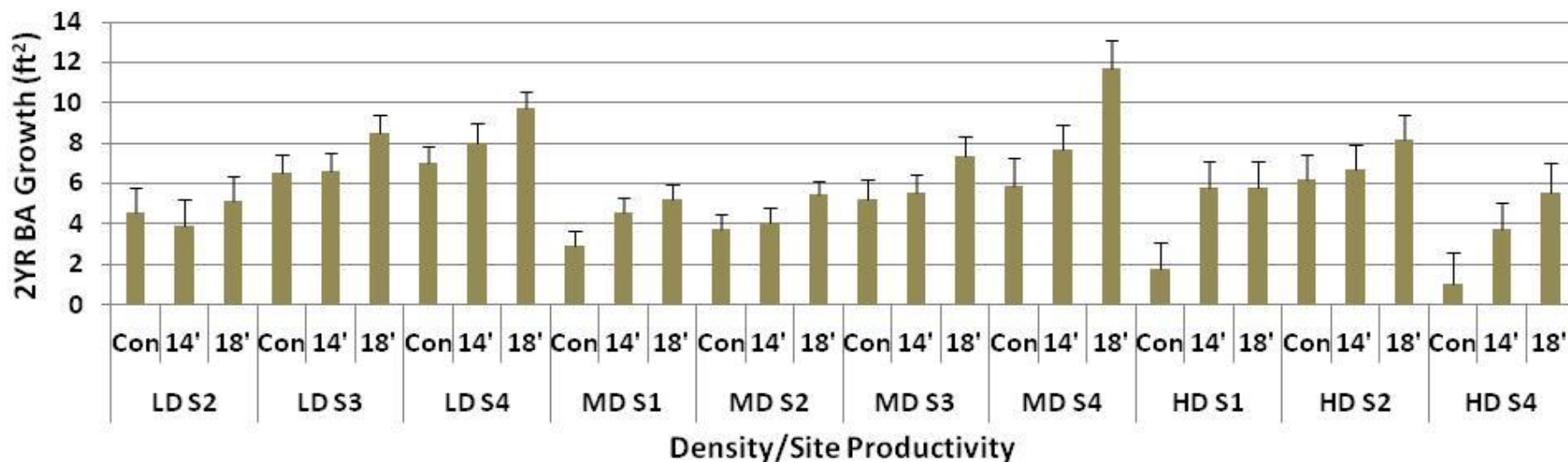
2013 2YR DF Growth by Productivity



2013 DF 2YR Growth by Density/Productivity Type

D E N S I T Y	P R O D U C T I V I T Y			
	Site I RD Low	Site II RD Low	Site III RD Low	Site IV RD Low
	Site I RD Med	Site II RD Med	Site III RD Med	Site IV RD Med
	Site I RD High	Site II RD High	Site III RD High	Site IV RD High

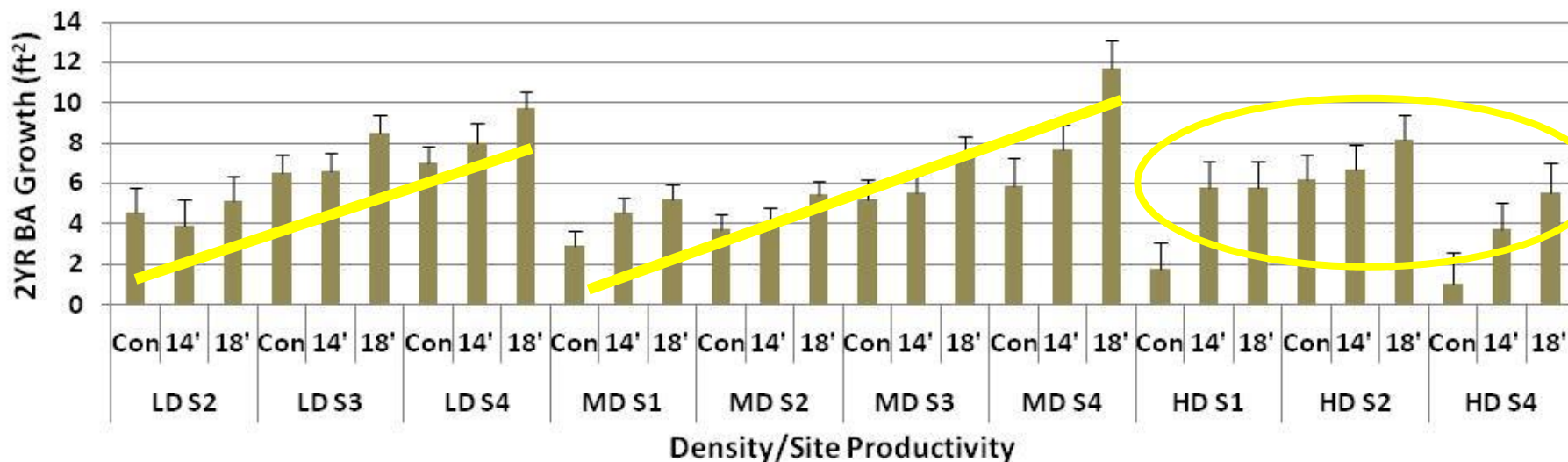
Crop Tree 2YR BA Growth



2013 DF 2YR Growth by Density/Productivity Type

D E N S I T Y	P R O D U C T I V I T Y			
	Site I RD Low	Site II RD Low	Site III RD Low	Site IV RD Low
	Site I RD Med	Site II RD Med	Site III RD Med	Site IV RD Med
	Site I RD High	Site II RD High	Site III RD High	Site IV RD High

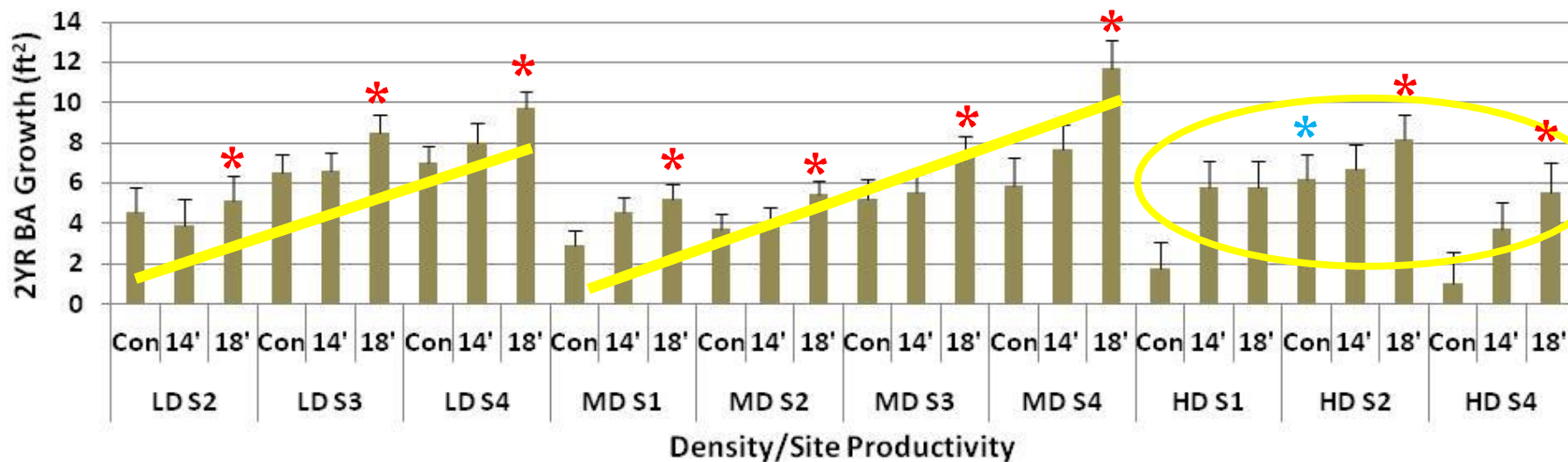
Crop Tree 2YR BA Growth



2013 DF 2YR Growth by Density/Productivity Type

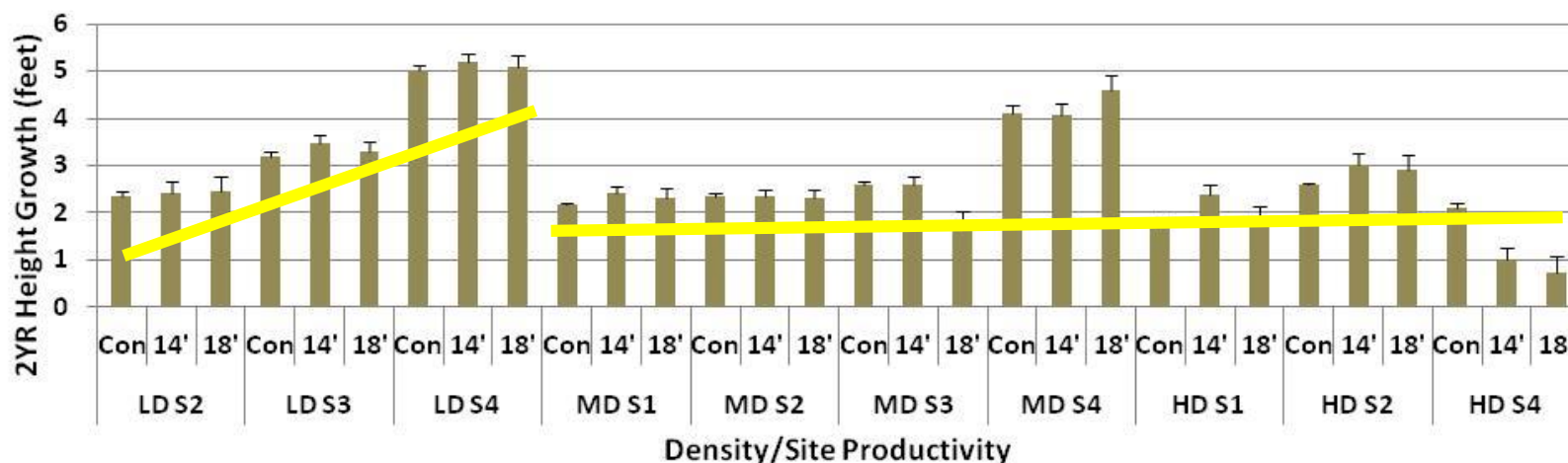
D E N S I T Y	P R O D U C T I V I T Y			
	Site I RD Low	Site II RD Low	Site III RD Low	Site IV RD Low
	Site I RD Med	Site II RD Med	Site III RD Med	Site IV RD Med
	Site I RD High	Site II RD High	Site III RD High	Site IV RD High

Crop Tree 2YR BA Growth

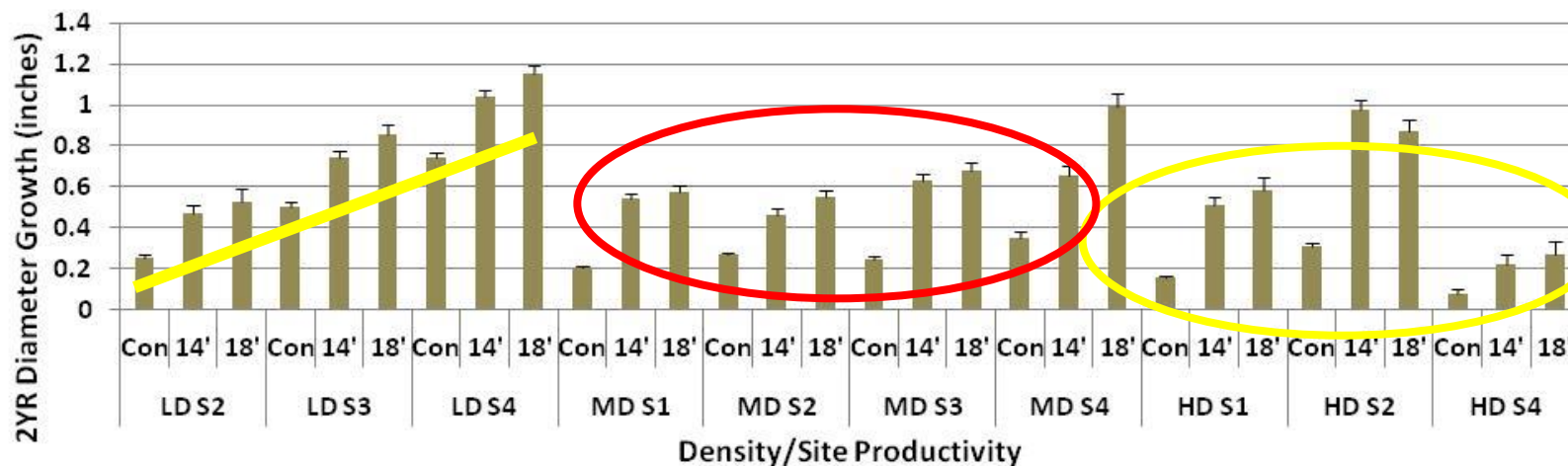


2013 2YR DF Growth by Density/Productivity Type

Individual-Tree 2YR Height Growth

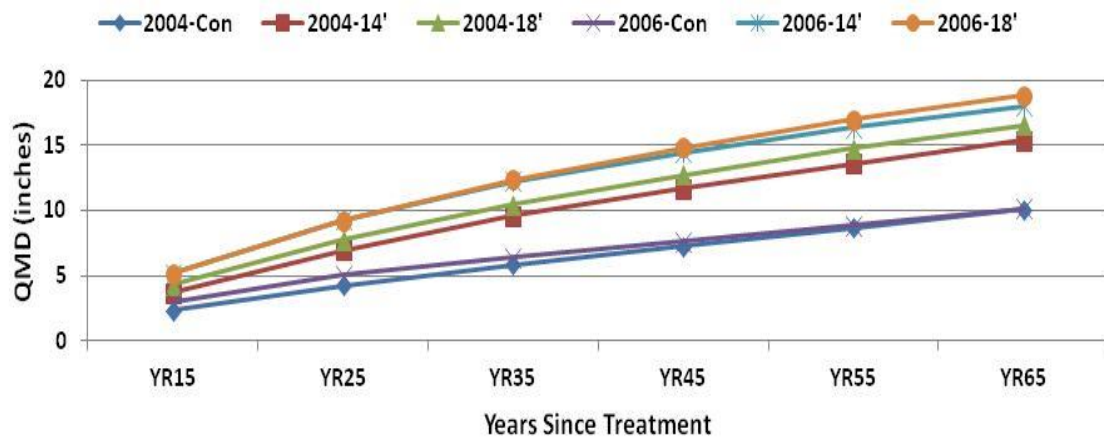


Individual-Tree 2YR Diameter Growth

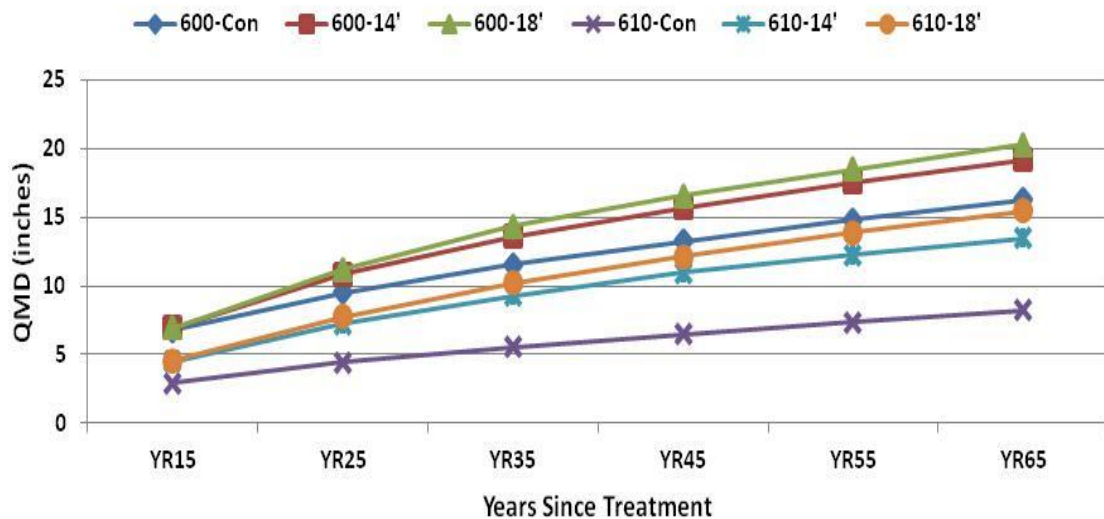


2013 2YR DF FVS Growth Projections

FVS Projection over 50 Year Treatment Period



SITE	10YR	TPA	QMD	SDI	maxSDI	% maxSDI
2004	21.2	1390	2.35	202	391	52
2006	22.6	1700	3.015	248	447	79



SITE	10YR	TPA	QMD	SDI	maxSDI	% maxSDI
600	25.4	1370	2.9	270	405	67
610	22.6	450	6.8	242	364	74

Site Type Initiative – PPDM Trials



University of Idaho
Intermountain Forestry Cooperative