

RETROFITTING A TIGHT VERTICALLY SHOOT POSITIONED TRAINING SYSTEM TO INCREASE CROP YIELD AND MAXIMIZE FRUIT QUALITY IN PETIT MANSENG

Rachael White



OVERVIEW

- 1) About Me
- 2) Goals
- 3) Tight vs. Sprawl
- 4) Pruning
- 6) Preliminary Results
- 7) 2018 Projects



ABOUT ME



PRIMARY GOALS

- 1) Retrofit a vertical shoot positioned system
- 2) Increase crop production per unit of land
- 3) Maintain or improve wine quality potential
 - Fruit composition estimated to impact wine quality

WAYS TO ACHIEVE GOALS

Training

- Sprawl and Tight

Pruning

- Bilateral cane, double bilateral cane, and bilateral cordon with spur pruning

Bud Density

- Low (3), Medium (5), and High (7) number of shoots per linear foot of row

RETROFITTING THE VSP SYSTEM

Sprawl

Tight

Vase



TIGHT



SPRAWL



PRUNING

Spur Pruning, Cordon Training

Bilateral Cane

Double Bilateral Cane

COMMON VINE TRAINING METHODS



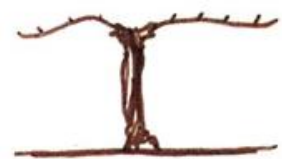
single cordon



double cordon



single guyot



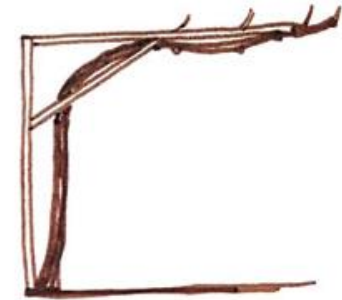
double guyot



geneva double curtain



scott henry



pergola



lyre



goblet / head



basket / kouloura

DOUBLE CANE



PRELIMINARY RESULTS: PRUNING YIELD

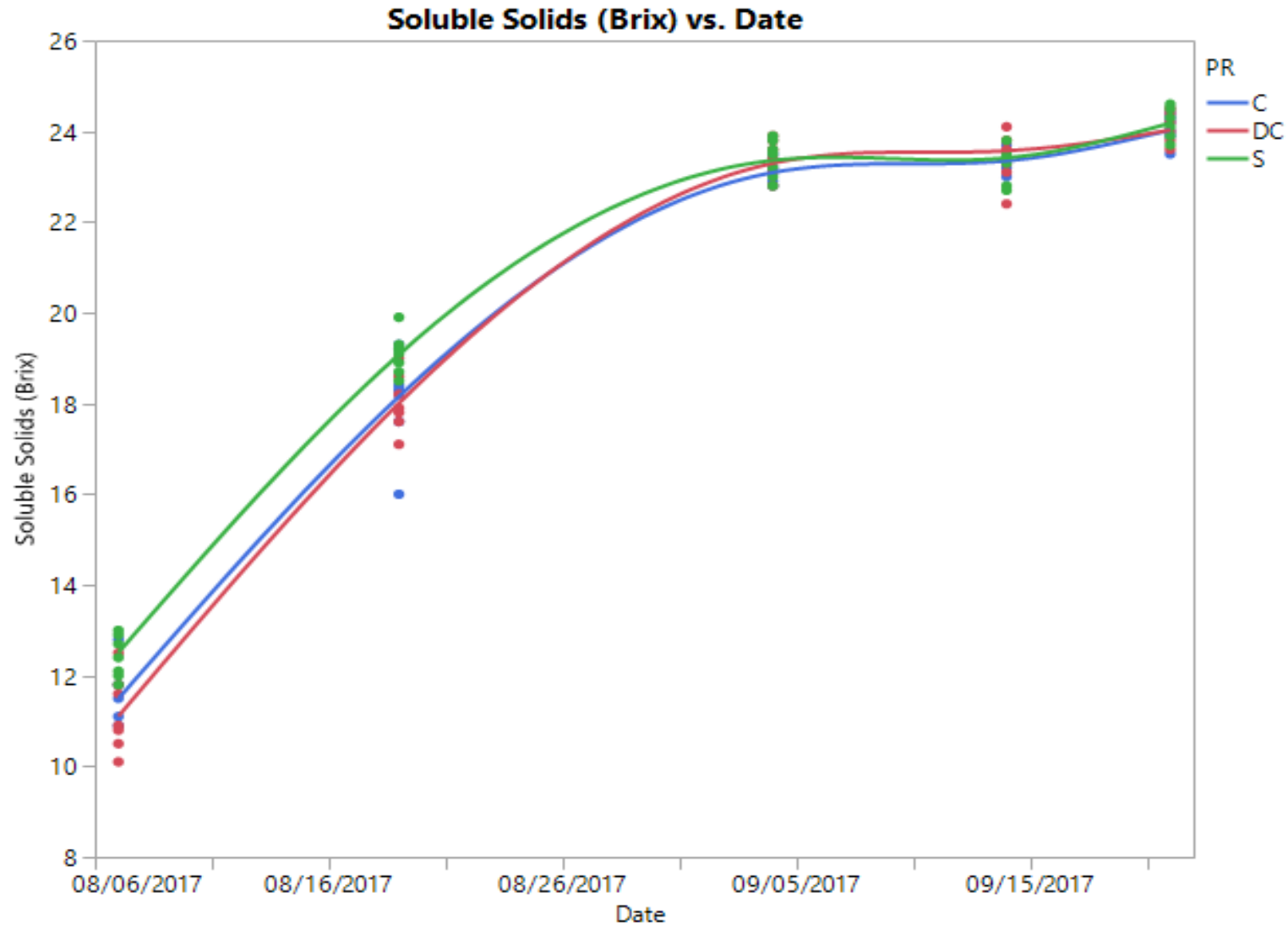
Treatment	2017			
	Crop yield (lbs/ vine)	Cluster number	Cluster weight (lbs)	Berry # /cluster
Double Cane	11.27 a	54.84 a	0.21	91.30
Cane	7.87 b	25.81 c	0.30	100.00
Spur	7.75 b	35.41 b	0.22	84.61
Significance	<0.0001	<0.0001		

* Tight vs. Sprawl had
no impact on yield

PRELIMINARY DATA: PRUNING CHEMISTRY

Treatment	2017		
	SSC (°Brix)	pH	TA (g/L)
Double Cane	24.06	2.85	10.45 _a
Cane	24.07	2.86	10.25 _{ab}
Spur	24.24	2.85	9.94 _b
Significance	ns	ns	0.0477

PRELIMINARY RESULTS: PRUNING BRIX OVER TIME



PRELIMINARY DATA: TRELLIS CHEMISTRY

Treatment	2017		
	SSC (°Brix)	pH	TA (g/L)
Sprawl	24.12	2.84b	10.48a
Tight	24.12	2.87a	9.95b
Significance	ns	0.0035	0.0013

DISCUSSION

Why the increase in TA?

Science behind the sprawling canopy

- Kliewer and Dokoozlian (2005)



TAKE HOME

We increased crop by **44%** using double cane pruning

TA went up with double cane and with sprawling the canopy

Labor?

Costs??



2018 SEASON PROJECTS

Keeping up the pruning trials

Adding a bud density trial



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- CeNita Vineyard
- Crane Creek Vineyard
- Habersham Winery
- Stonewall Creek Vineyard
- Yonah Mountain Vineyard

All of those that helped us last season

- Annie Vogel
- Alyssa Haley
- Alex Blackwood
- All of the extension agents that helped throughout the season

All of those that continue to support UGA Viticulture!

THANK YOU!

