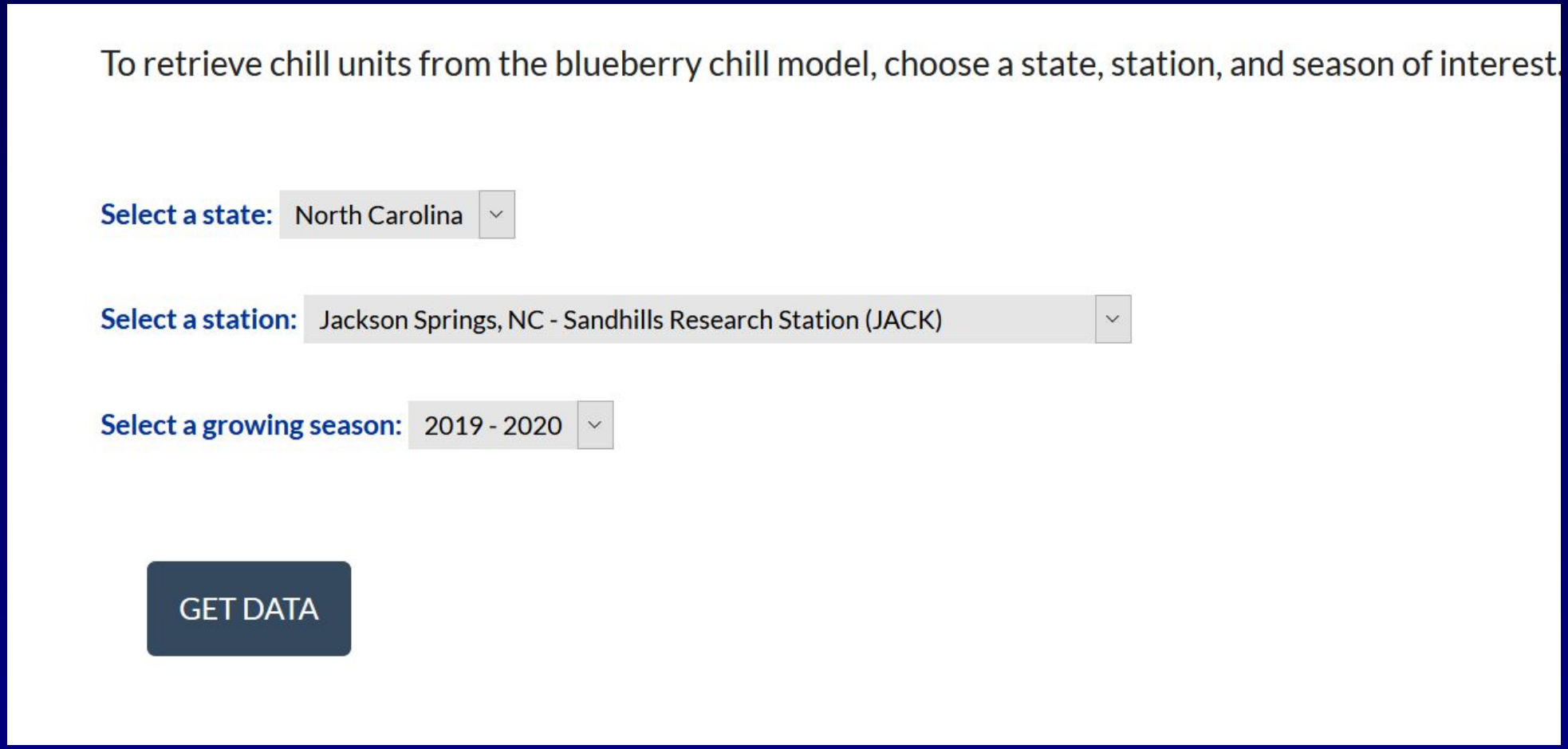


http://www.nc-climate.ncsu.edu/cronos/blueberry/chill_model?state=NC

State Climate Office of North Carolina

Email: sco@climate.ncsu.edu
Phone: 919-515-3056

Blueberry Chill Model: Accumulated Units

Station Details

Station: JACK - Sandhills Research Station **Date of first observation:** 1985-08-29

Station type: ECONET - Tower what is this? Maintenance Logs

City, State: Jackson Springs, NC **County:** Montgomery County

Latitude: 35.18782° **Longitude:** -79.68437°

Elevation: 625 feet above sea level

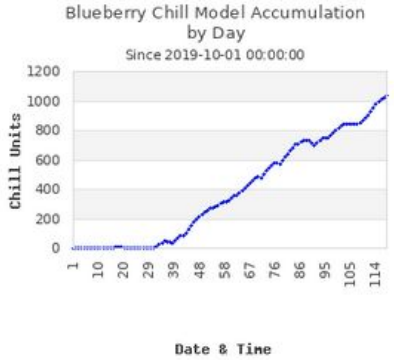
Climate division: NC05 - Southern Piedmont

River basin: Upper Pee Dee

Supported by: NC Agricultural Research Service

Chill model count = 1039

First non-zero value was 2019-11-01 00:00:00



1/7/2020	798.5
1/8/2020	814.5
1/9/2020	834.5
1/10/2020	845
1/11/2020	845
1/12/2020	845
1/13/2020	845
1/14/2020	845
1/15/2020	845
1/16/2020	847
1/17/2020	869.5
1/18/2020	889
1/19/2020	904.5
1/20/2020	928.5
1/21/2020	952.5
1/22/2020	976
1/23/2020	998
1/24/2020	1009.5
1/25/2020	1024.5

http://peaches.ces.ncsu.edu

NC STATE EXTENSION

COUNTY CENTERS TOPICS GIVE NOW

Peach Growers Information

Search

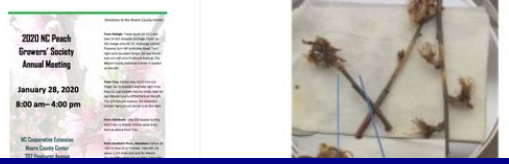
- Meet Our Staff
- Events
- Personnel
  - Faculty Research Stations
- NC Peach Statistics
- Peach Tree Videos
- Home Gardeners
  - Educational Resources Peach Tree Videos
- Production & Management
  - Production Pest Management Marketing ...
- Weather & Climate
- NC Peach Growers' Society

Events

JAN 27 MON
NC Peach Growers' Pre-Conference Workshop
Mon 1/27 1 PM - 4 PM
18 hours away

JAN 28 TUE
NC Peach Growers' Society Annual Meeting
Tue 1/28 8 AM - 3 PM
2 days away

News and Updates



ncpeachgrowers.com/

Successful Tree and Orchard Establishment

Dr. Michael L. Parker
Department of Horticultural Science
North Carolina State University


CONTENDER
GUARDIAN ROOTSTOCK

Pre-plant - Take sample as deep as possible and break into 2 subsamples for analysis.


CHEVROLET


WEATHERSHIELD
DURON
EXTERIOR ACRYLIC
FLAT HOUSE PAINT
ONE COAT WHITE

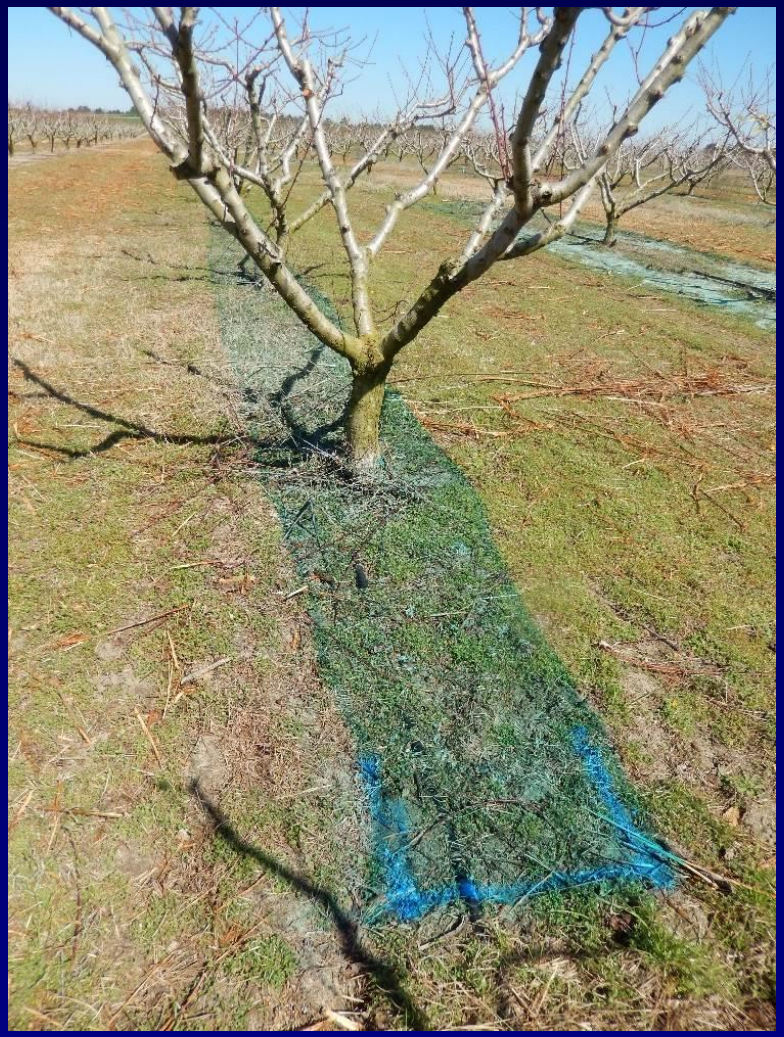

Bahia


Bare Ground

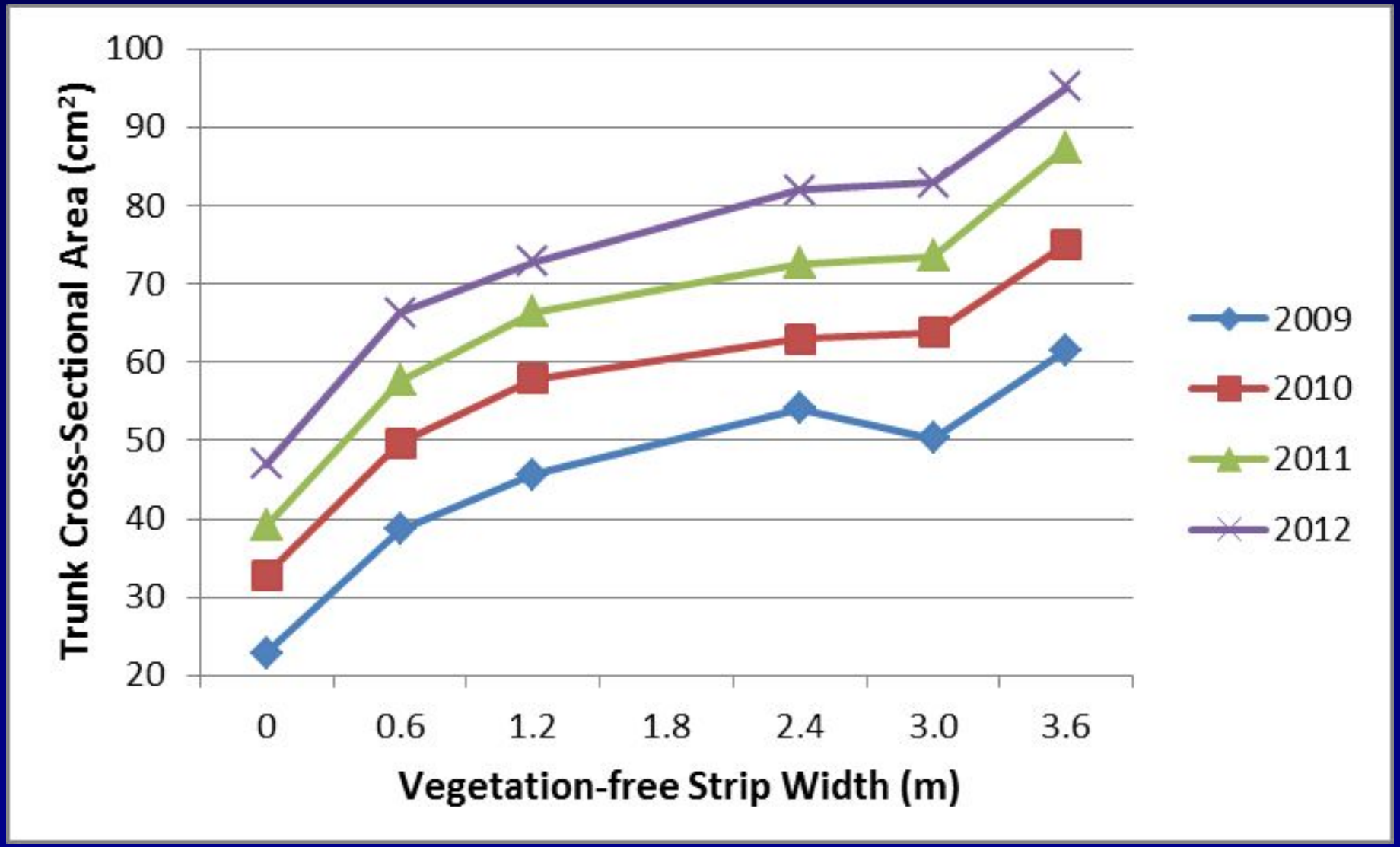

Centipede


Nimblewill

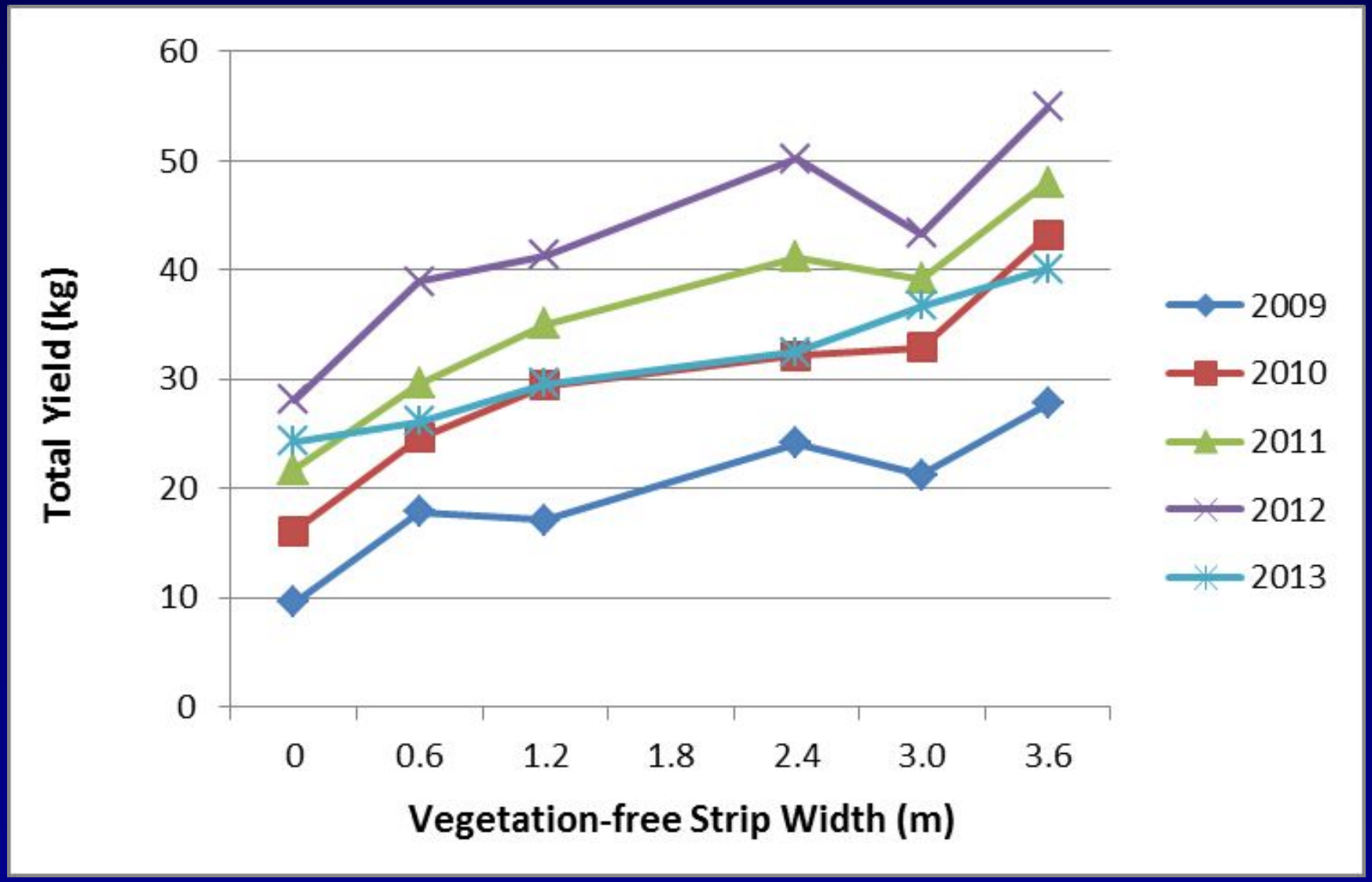
To Irrigate or Not?



Effect of Vegetation-free Strip Width on TCSA Years 4-7



Effect of Vegetation-free Strip Width on Yield Years 4-8



Peach Rootstocks

All peaches are budded or grafted to minimize PTSL

- Lovell
- Halford
- Guardian – Especially on sandy/light soils where nematodes are a potential problem.
- MP-29- ??
- Sharpe - ????

2009 NC-140 Peach Rootstock Trial

- Evaluated 18 rootstocks with ‘Redhaven’ as the cultivar
- Soil was fumigated with Telone II at 30 gals/acre on a 12 ft strip
- Trees planted at 16’ x 20 ‘ on 3/10/2009
- Micro-sprinkler irrigation installed April, 2010
- Dan 2001 Micro-sprinkler (23 ft diameter, 18.5 gals/hr)

Viking – Peach x Almond x Flowering Plum, CA
Atlas – Peach x Almond x Flowering Plum, CA
Bright's Hybrid 5 – Almond x Peach, CA
Mirobac - Myrobolan Plum x Almond, Spain
Guardian® (3-17-7) – Peach, USDA Byron, GA and Clemson University, SC
Lovell – Peach, 1882 CA drying peach
KV010123 – Peach, USDA, Kearneysville, WV
KV010127 - Peach, USDA, Kearneysville, WV
Krymsk®86 (Kuban 86) – Myrobolan Plum x Peach, Russia
Empyrean®2 (Penta) - European Plum, Italy
Imperial California – European plum, Italy
HBOK 10 – Peach, University of CA
HBOK 32 - Peach, University of CA
Prunus americana selection - American Plum, MN
Fortuna – Plum x Peach, Russia
Krymsk®1 (VVA-1) – Nanking Cherry x Myrobolan Plum, Russia
Controller 5 (K146-43) – Japanese Plum x Peach, CA

2009 NC-140 Peach Rootstock Trial

Bacterial canker has resulted in the death of many trees of several rootstocks. Started with a total of 8 of each:

- Imperial California
- Controller 5 (K146-43)
- Empyrean 2 (Penta)
- Mirobac
- Krymsk 1
- Fortuna
- Krymsk 86
- *Prunus Americana*

2009 NC-140 Peach Rootstock Trial - 2019

Rootstock	2019 Survival (%)	2019 TCSA (cm^2)	2019 Yield (lb)	Cumulative Yield (2011-19) (lb)
Atlas	50	220.3 a*	63.9 a	366.4 ab*
Bright's Hybrid 5	64	218.6 a	61.3 a	400.1 a
Controller 5(K146-43)	0	--	--	--
Empyrean 2(Penta)	0	--	--	--
Fortuna	0	--	--	--
Guardian	88	172.2 ab	74.3 a	491.2 a
HBOK 10 (Controller 8)	78	91.5 c	38.4 a	235.7 b
HBOK 32 (Controller 7)	36	94.2 bc	66.6 a	317.9 ab
Imperial California	0	--	--	--
Krymsk 1 (VVA-1)	0	--	--	--
Krymsk 86 (Kuban 86)	10	--	--	--
KVO 10123	100	166.3 ab	63.3 a	382.1 a
KVO 10127	78	174.4 ab	48.3 a	332.9 ab
Lovell	64	206.3 a	36.8 a	423.5 a
Mirobac	0	--	--	--
Prunus americana	10	--	--	--
Viking	64	192.7 a	62.2 a	409.6 a
TRT Prob.		≤0.0001	N. S.	≤0.0008

* LSMeans within column with the same letter are not significantly different according to Tukey-Kramer at $P \leq 0.05$. Large variations in data from tree loss has reduced sensitivity with the Tukey-Kramer mean separation.

2017 Peach Rootstock Planting

Lovell – Peach, 1882 CA drying peach
Guardian® (3-17-7) – Peach, USDA Byron, GA and Clemson University, SC
HBOK 27 (Controller 6) - Peach, University of CA
HBOK 32 (Controller 7) - Peach, University of CA
HBOK 10 (Controller 8) – Peach, University of CA
Rootpac 20 (Densipac) - Plum tree hybrid (*Prunus besseyi x Prunus cerasifera*), Low vigor, Agromillora Catalana breeding program, Spain
Rootpac 40 (Nanopak) – Peach x Almond (P. dulcis x P. persica) x (P. dulcis x P. persica), Controlled vigor, Agromillora Catalana breeding program, Spain
MP-29 - 'Edible Sloe' natural plum hybrid thought to include *Prunus umbellata* x Peach (red-leafed peach rootstock selection), USDA-ARS, Byron, GA

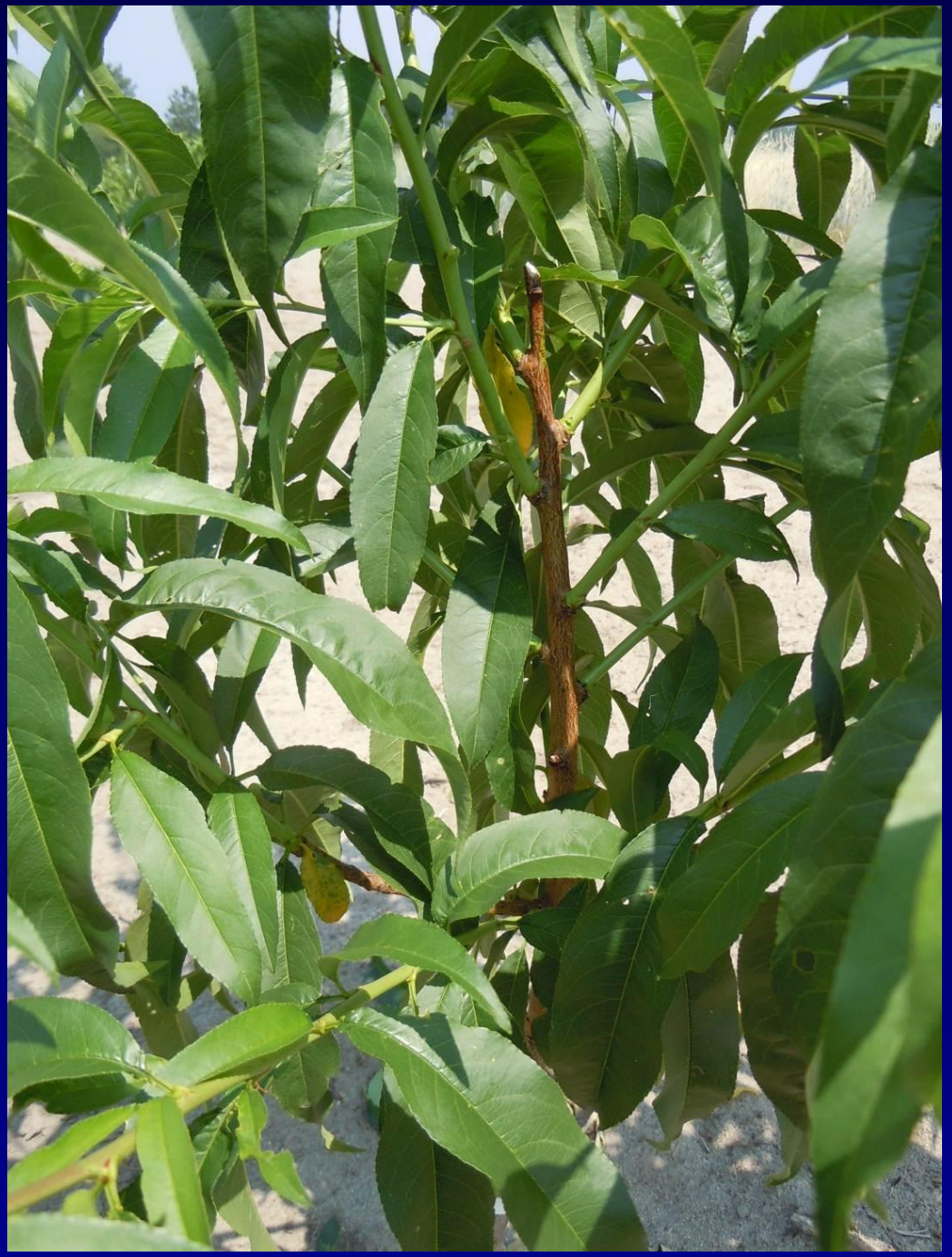
2017 Peach Rootstock Planting

- 8 rootstocks with ‘Cresthaven’ as the scion
- Soil was fumigated with Telone II at 30 gals/acre on a 12 ft strip on 11/09/2016
- Trees planted at 6’ x 18‘ on 2/28/2017
- Trees trained to a perpendicular V
- Deer fence installed in November 2017
- Trees overhead irrigated in 2017 and micro-sprinkler irrigation installed February 2018

2017 Peach Rootstock Trial - 2019

Rootstock	2019 Survival (%)	2019 TCSA (cm^2)	2019 Yield (lb)
Controller #6 (HBOK 27)	90*	15.4 c*	4.0 c
Controller #7 (HBOK 32)	45	3.1 d	0.0 c
Controller #8 (HBOK 10)	80	8.2 d	0.4 c
Guardian	100	36.7 a	15.2 a
Lovell	100	30.5 b	12.3 ab
MP-29	69	20.4 c	6.8 bc
RootPac 20	45	20.3 c	4.4 bc
RootPac 40	50	14.6 c	0.7 c
TRT Prob.		≤0.0001	≤0.0001

* LSMeans within column with the same letter are not significantly different according to Tukey-Kramer at $P \leq 0.05$.



2017 Peach Biochar Planting

Objective: To evaluate biochar utilization in peaches, as a model crop, to increase soil nutritional content, increase nutrient holding capacity, reduce nutrient leaching, and minimize replant-related tree death.

4 Biochar Treatments

1. Untreated Control
2. 5% v/v (incorporated in a 10 ft strip to a depth pf 1 ft)
3. 10% v/v (incorporated in a 10 ft strip to a depth pf 1 ft)
4. Dynamic = Applied to the drip line annually and lightly incorporated (Year 1 - 5 lb/tree)

--Two rootstocks included – Guardian and Halford

--Soil was fumigated with Telone II at 30 gals/acre on a 12 ft strip on 11/09/2016

--Biochar applied and incorporated on 4/11/2017

--Trees planted at 14' x 20' on 4/11/2017

--Deer fence installed in November

--Trees were overhead irrigated in 2017 and micro-sprinkler irrigation established in Winter

4 Biochar Treatments

--Untreated Control

--5% v/v (10 ft wide and 1 ft deep strip)

--10% v/v (10 ft wide and 1 ft deep strip)

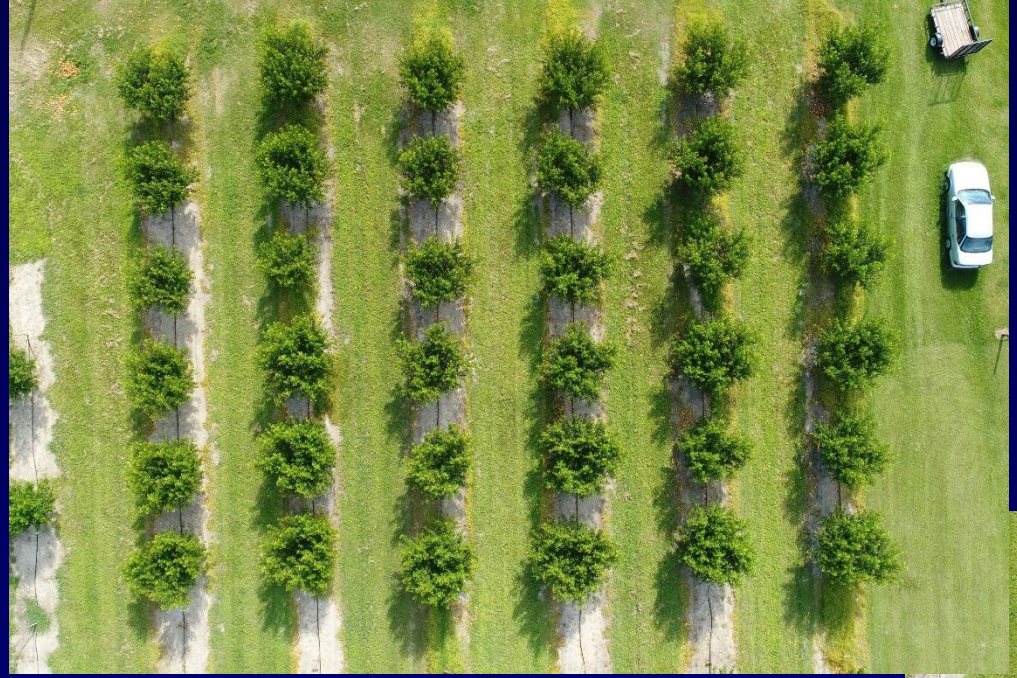
--Dynamic - Annually to drip line of the tree

--Contender is the cultivar with two rootstocks –

- --Halford
- --Guardian


NEW HOLLAND
7840


10% v/v Biochar




Thank You!

Why Summer Prune?

- Reduce dormant pruning costs
- Minimize current season shading
- Maintain fruiting wood close to trunk
- Increase current seasons fruit color
- Optimal tree structure

Not Summer Pruned

Summer Pruned

Before Summer Pruning

After Summer Pruning

Before Summer Pruning

Note shade under tree

After Summer Pruning


Thank You!

Orchard Nutrition and Fertility

- Fate of nutrients in the orchard
  - Bound by the soil particles
  - Utilized in production of long term portion (i.e. woody framework) of the tree
  - Utilized in short term or annual portion (i.e. leaves) on the tree
  - Utilized by orchard floor
  - Utilized in fruit production
  - Leached or volatilized
    - Net losses that must be compensated for annually

Table 7-8. Estimated annual kilograms per hectare removed of nitrogen, phosphorus, and potassium by mature trees.

Tree	Nitrogen	Phosphorus	Potassium
Apple	39	10	71
Peach	76	11	96