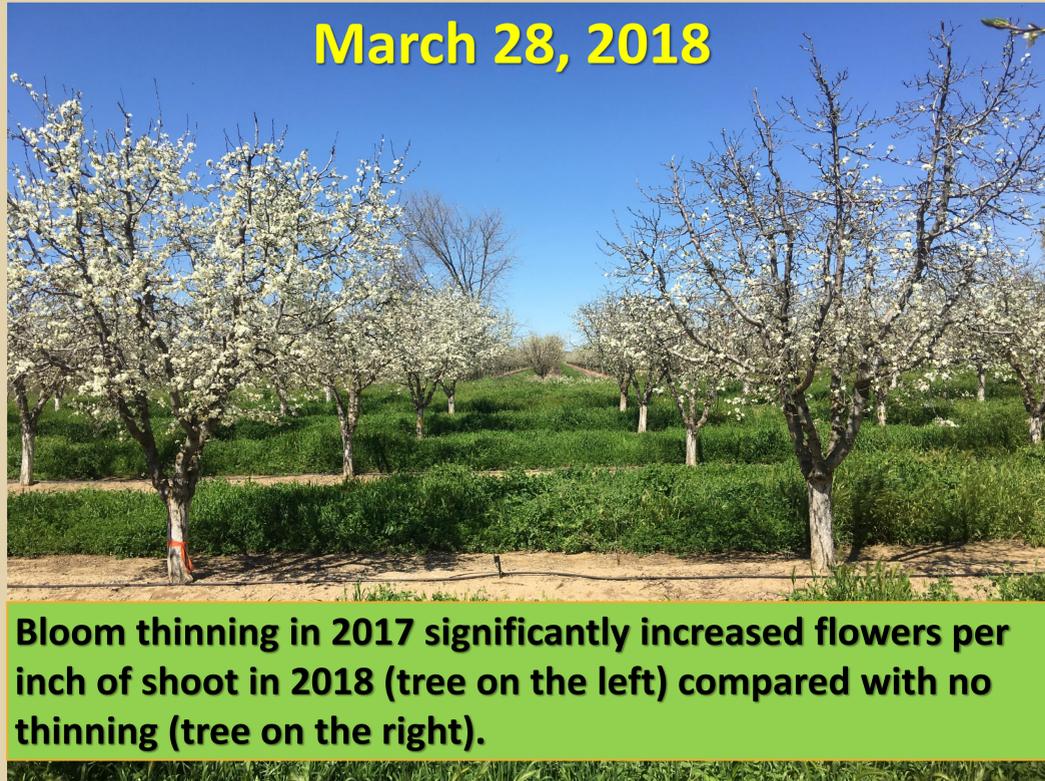


Spray thinning prunes at bloom: worth checking out.

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Bloom thinning in 2017 significantly increased flowers per inch of shoot in 2018 (tree on the left) compared with no thinning (tree on the right).

Introduction

- Large fruit has more value to growers than medium or smaller fruit, particularly today.
- Prune trees tend to overset fruit, leading to production of smaller fruit sizes of less value and limited bloom the next year unless mechanically thinned roughly 5-6 weeks after full bloom.
- Mechanical thinning removes the larger fruit, yet still can improve average fruit size at harvest vs. no thinning.
- Flower thinning produces the largest possible fruit at a particular cropload. Competition between fruit is reduced early.
- Caustic chemicals or plant growth regulators are used to thin flowers or small fruit and improve return bloom in other tree crops.
- What would happen if they were tried in prunes if weather conditions look good for set – day time highs between 60°-80°F?

Methods

In 2015, a replicated trial was established in a mature, highly productive (4-5 dry ton/acre) prune orchard in southern Sutter County.

Individual trees were sprayed with the following materials:

- Potassium thiosulfate (KTS) (No adjuvant!)
- Lime sulfur (+ oil adjuvant)
- **NEITHER KTS OR LIME SULFUR ARE REGISTERED FOR BLOOM THINNING IN PRUNES IN CA.**

- Trees were sprayed at:
- 25-30% bloom
- 80-100% bloom
- Either or both timings
- **[In 2019, sprays were late]**
- Goal was effective treatments and rates. Every year, all the study trees

Conclusion:

2 sprays of KTS (1.5-2% v/v) or lime sulfur+fish oil (2.5%+2% v/v) are worth testing on field scale. Previous year yield and bloom weather forecasts will be key to designing correct thinning program.

Results:

2017: Very good results, fast bloom. Heavy crop w/o thinning.

Treatment (with spray timing)	Fruit/tree	Dry fruit (tons/acre)	A&B screen (tons/acre)
Lime Sulfur + Fish Oil (80% bloom)	4924 a	4.33 a	3.25 a
1.5% KTS (80% bloom)	6229 abcd	4.62 a	2.91 ab
2% KTS (25 & 80% bloom)	5174 ab	4.28 a	2.80 abc
1% KTS (25 & 80% bloom)	6043 abc	4.54 a	2.71 abcd
1.5% KTS (25 & 80% bloom)	6221 abcd	4.49 a	2.23 abcd
1.5% KTS (25% bloom)	9638 cd	5.73 a	1.26 bcd
Untreated control	9334 cd	5.40 a	0.99 cd

2018: Light return bloom, unthinned trees cropped well.

2018 Treatment (with spray timing)	Fruit/tree	Dry fruit (tons/acre)	A+B screen (tons/acre)
2% KTS (25 & 80% bloom)	1469 ab	2.46 ab	2.42 ab
1.5% KTS (25 & 80% bloom)	1698 ab	2.71 ab	2.65 ab
Lime sulfur + fish oil (80% blm)	2082 abc	2.94 ab	2.71 ab
Lime sulfur + VOC (80% blm)	2286 abc	2.27 ab	1.42 ab
1.0% KTS (25 & 80% bloom)	2352 abc	3.34 ab	3.19 ab
1.5% KTS (80% bloom)	2785 abc	3.25 ab	2.50 ab
Control	3612 abc	4.31 b	3.56 b
1.5% KTS (25% bloom)	4818 c	4.75 b	2.86 ab

2019: Sprays were late due to rain, wet soil, long bloom

Treatment (with spray timing)	Fruit/tree	Dry fruit (tons/acre)	A+B screen fruit (tons/acre)
Control	5,826 a	4.56 a	1.39 a
Lime sulfur + fish oil (2 DAFB)	5,522 a	4.69 a	2.01 a
1.5% KTS (70% bloom)	4,996 a	4.32 a	2.08 a
1.5% KTS (2 DAFB)	5,979 a	5.02 a	2.09 a
1.5% KTS (70% & FB+2d)	3,406 a	3.80 a	3.05 a
1.0% KTS (70% & FB+2d)	3,989 a	4.16 a	3.11 a
2% KTS (70% & FB+2d)	3,674 a	4.31 a	3.50 a

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