Accede 40 SG Peach Thinning Evaluation in New Jersey-2023

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Peaches/Nectarines

Accede® PGR is the first of its kind chemical thinner registered for use on peaches/nectarines. Trials have demonstrated that an application of Accede to peaches/nectarines during the period from bloom to petal fall will reduce fruit set and reduce, but not eliminate, the need for hand thinning.

Valent conducted grower demonstration trials in NJ in 2022 and 2023 with numerous peach growers.
See our article on Accede Peach Grower Trials in 2021 and 2023 in New Jersey
http://www.horticulturalnews.org/103-2/HN4.pdf

2023 Accede Peach Thinning Evaluation in North Jersey,

Two orchards were selected in Norther New Jersey, Sunhigh Orchard in Randolph, NJ (Morris County) and Melick's Town Farm, Califon, NJ (Hunterdon County. The goal was to evaluate Accede on a number of peach varieties for efficacy, 8 were done, 4 at each location. We know there are varietal differences on how Accede performs as a peach blossom thinner.

The experiment was set up with single tree replications in a completely randomized design. All treatments were applied with a Rears Nursery Cart Sprayer (Photo 2) with a handgun (Photo 3), at 100 PSI at 100 GPA. Treatments were applied full bloom, (Photo 1).

The effects of the treatment can start to be seen one week after application (photo 4) but it really takes until pit hardening to determine the percent of fruit that was removed. Trees were evaluated at shuck split and at pit hardening. Data was collected at first harvest, ½ bushel of peaches per tree per tree/replication were harvested, 15 of these were selected for uniformity and data collected, weight and diameter (Photos 5,6).

Photo 1. Applications conducted at full bloom.

Photo 2. Rears Nursery Cart Sprayer.

Results and Discussion

Accede Thinner worked well across the board on all cultivars tested. Both farms averaged 50% blossom thinning, 4 % increase in diameter and 16 % increase in weight/ mass. Hand thinning still needed to be done for touch up. Thinning ranged from 32% to 73% with Gloria. In my mind Gloria over thinned with Accede in this experiment. Our target is 40-60% thinning (Figures 1-4).

Photo 3. Hand Gun Application of Accede @ 100 PSI.

We used the low rate of Accede, 300PPM and a higher rate of surfactant 0.1% v/v or 16 ounces/100. The surfactant was Regulaid which is a NIS penetrating

Photo 4. Peach flowers starting to desiccate, one week after application.

Photo 5. Data collection at harvest, 15 peaches sampled per tree, measured for diameter.

Photo 6. Data Collection at harvest, 15 peaches sampled per tree, weighed on scale.

- Location: Sunhigh Orchards, Randolph, NJ
- Replications- completely randomized -4 single tree reps per treatment-
- Applied with Handgun, 100 GPA, 100 PSI
- Treatments:
  - UTC
  - ACCEDE 300 ppm + Regulaid 1 pt/100
- Timing: mid to late bloom, 4/14 (5-8PM)

Figure 1. 2023 Sunhigh Data.

Sunhigh Orch.			
Variety	% thinning	% Incr dia	% Incr mass
Redhaven	48.5	-1.6	8.2
Ernies Choice	60.2	-0.6	19.6
Loring	47.1	5.4	8.6
Jerseyglow	38.9	4.3	23.0

Figure 2. Sunhigh Date, Minimum Temperature, Average Temperature, Maximum Temperature, Relative Humidity (RH), and precipitation.

Date	Tmin	Tave	Tmax	Relative Humidity Avg [%]	Precip (in)
2023-04-07	39	49	54	35	0
2023-04-08	32	41	51	42	0
2023-04-09	33	44	57	50	0
2023-04-10	35	50	64	49	0
2023-04-11	44	59	72	34	0
2023-04-12	59	69	81	34	0
2023-04-13	57	72	87	41	0
2023-04-14	62	75	90	33	0
2023-04-15	58	64	71	82	1.09
2023-04-16	55	62	70	84	0
2023-04-17	51	57	63	70	0.15
2023-04-18	41	47	51	50	0
2023-04-19	39	49	62	49	0
2023-04-20	42	54	71	52	0
2023-04-21	47	57	70	65	0

- Location: Melick's Town Farm, Califon, NJ
- Replications- completely randomized -8 single tree reps per treatment-
- Applied with Handgun, 100 GPA, 100 PSI
- Treatments:
  - UTC
  - ACCEDE 300 ppm + Regulaid 1 pt/100
- Timing: mid to late bloom, 4/14 (2-4:30PM)

Figure 3. 2023 Melick's data by cultivar.

Melick			
Variety	% thinning	% Incr dia	% Incr mass
Gloria	73.2	8.6	23.1
Messina	42.2	5.3	13.8
Big George	62.9	2.3	11.5
Victoria	32.3	7.2	18.5

Figure 4. Melick's Date, Minimum Temperature, Average Temperature, Maximum Temperature, Relative Humidity (RH), and precipitation.

Date	Tmin	Tave	Tmax	RHavg	Precip
2023-04-07	39	49	54	34	0
2023-04-08	33	41	50	42	0
2023-04-09	34	44	56	50	0
2023-04-10	35	49	62	51	0
2023-04-11	43	58	70	36	0
2023-04-12	60	69	80	35	0
2023-04-13	59	72	84	40	0
2023-04-14	61	74	87	35	0
2023-04-15	58	63	70	88	0.98
2023-04-16	54	61	69	89	0
2023-04-17	50	56	62	69	0.18
2023-04-18	41	46	51	51	0
2023-04-19	37	49	62	49	0
2023-04-20	43	55	70	53	0
2023-04-21	47	57	71	70	0

surfactant and therefore a bit more active. It has been my standard for use with PGR's for over 20 years.

Applications of any PGR should be done in early morning or evening to allow for slow drying. Even though our temperatures were warm on day of application no phototoxicity was observed.

In conclusion, Accede is a unique product filling a nitsch for a chemical PRG thinner for peaches. It assists with effective Crop Load Management. The use of Accede allows for significantly less hand thinning labor, the biggest cost of production in peaches. We also saw increased fruit size and therefore potential increased dollar return per acre.

I would urge all Peach Growers to try Accede for Peaches in 2024.

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