

IMPROVING COLOR/MATURITY

Reality Research, LLC Variety Trials and New Crosses

Reality Research has been partnering with MAIA to evaluate new varieties for several years. Plantings from 2016, 2017, 2018, 2021 & 2022 include 3,500 second-generation MAIA trees representing 71 unique varieties.

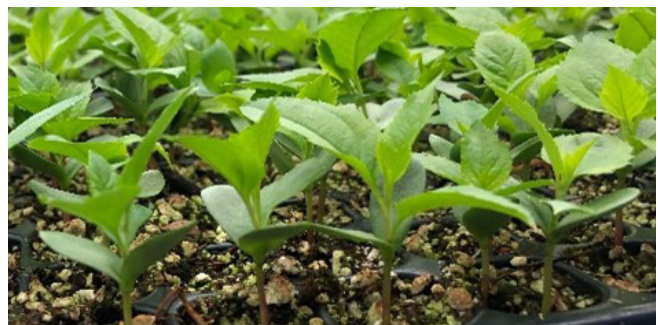
In the spring of 2022, over 1,000 seedlings from 3 different managed crosses were bench grafted onto Bud 9 rootstock and planted in a test plot on a trellis system.

Additionally, over 1500 seeds were collected in the fall of 2021. These consisted mostly of unmanaged crosses paired with 3 patented MAIA varieties. The seeds were started in the greenhouse this spring, and a selection of them was then budded onto Bud 9 rootstock this fall. The rest are in cold storage & will be bench grafted on Bud 9 rootstock this coming spring. More seeds are also being prepared for the spring of 2023.

Field study to evaluate Evercrisp[®] fruit quality as affected by rootstock, summer pruning timings, and Mylar[®] reflective film application timings on MAIA1 trees.

Evaluations:

- MAIA1, 8- to 10-year-old trees
- 3 Rootstocks including Geneva 11, Geneva 41, and Bud 9.
- 2 pruning timings - August and October (pruning techniques from Bill Pitts)
- 2 Mylar[®] application timings -August (13 weeks prior to harvest) and October (2 weeks prior to harvest) Four (4) feet wide strips of Mylar[®] were placed underneath both sides of the tree rows involved in the study.



- Harvesting multiple trees at harvest in each different scenario. Fruit evaluated at a commercial packing house with an electronic eye sorter, evaluating for fruit color, size, and surface defects.

Noteworthy Results:

Rootstocks: Data shows that Bud 9 out yields and brings great return on investment over both Geneva 11 and Geneva 41.

Summer pruning: Data shows that summer pruning provided the greatest impact on fruit coloring. This season, there was little difference whether pruned in August or October. Potentially, in a season with conditions not as favorable for fruit coloring, we would see greater benefit from an early season pruning.

Seasonal Note: This season we experienced great coloring weather leading up to harvest. We saw some of the best-colored EverCrisp® that we have ever seen. During these conditions, we generally see more changes in converting fancy grade fruit (60-80%) into extra fancy fruit (>80%).

Mylar® reflective film: Data shows that this was effective in improving fruit color. The August application showed greater defects regarding sunburn in the lower portion of the tree.

Evercrisp® Fruit Coloring Trial

TREATMENTS	# OF FRUIT PER TREE	<40% FRUIT COLOR	40%-60% FRUIT COLOR	% FANCY 60%-80% FRUIT COLOR	% EXTRA FANCY >80% FRUIT COLOR
G41	45	0	0	16	84
G41 AUG-PRUNED	50	0	1	5	94
G41 AUG-PRUNED & AUG-MYLAR®	68	0	2	7	91
B9	61	1	8	15	76
B9 OCT-PRUNED	82	0	9	7	85
B9 OCT-PRUNED & OCT-MYLAR®	72	0	1	10	90
B9 AUG-PRUNED & OCT-MYLAR®	72	1	0	5	94
G11	48	4	3	29	64
G11 OCT-PRUNED	42	2	1	18	79
G11 OCT-MYLAR®	41	1	1	16	81
G11 OCT-PRUNED & OCT-MYLAR®	44	0	0	8	92

Evercrisp® Harvest Returns 2022 GROWING SEASON | REALITY RESEARCH LLC | APPLE VARIETY: MAIA1 | 1117 TREES PER ACRE | \$12.5/BU 163-100 COUNTS | \$22.5 PER?BU >88 COUNTS

TREATMENTS	# OF FRUIT PER TREE	FRUIT WEIGHT (G)	% UNDER SIZE	% DEFECTS	%FRUIT <60% COLOR	%FRUIT 60%-80% COLOR	EXTRA %FRUIT >80% COLOR	% SELLABLE 163-100 COUNT	% SELLABLE 88-48 COUNT	% PACK OUT	# OF 20 BU BINS PER ACRE	PRICE PER 20 BU BIN	TOTAL DOLLARS PER ACRE
G41	45	277	0	17	0	13	70	18	65	83	30	\$423	\$12,740
G41 AUG-PRUNED	50	278	0	15	1	5	79	12	72	84	36	\$428	\$15,585
G41 AUG-PRUNED & AUG-MYLAR®	68	263	0	23	0	4	73	23	55	77	40	\$411	\$16,253
B9	61	285	0	13	7	11	68	5	75	80	45	\$408	\$18,018
B9 OCT-PRUNED	82	258	2	15	4	7	74	14	67	80	52	\$414	\$21,671
B9 OCT-PRUNED & OCT-MYLAR®	72	259	0	9	1	10	81	15	76	90	50	\$425	\$21,197
B9 AUG-PRUNED & OCT-MYLAR®	72	267	0	12	1	5	81	14	72	86	52	\$424	\$21,953
G11	48	283	0	21	0	25	55	6	73	79	33	\$440	\$14,365
G11 OCT-PRUNED	42	291	0	5	3	17	75	15	77	92	38	\$424	\$16,152
G11 OCT-MYLAR®	41	291	1	12	3	14	71	9	76	85	31	\$427	\$13,259
G11 OCT-PRUNED & OCT-MYLAR®	44	288	0	10	0	8	82	16	73	90	34	\$428	\$14,459