

AVOCADO BREEDING

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In recent years much of our attention has been directed toward propagating our newer avocado selections in a central test plot to compare their performance (as replicated trees) with standard varieties. This works well. Within a few years, vital data such as precocity, production, fruit quality, maturity season, relative fruit size, flower type, and tree form can be obtained.

Early data from recent selections indicate some interesting prospects for commercialization. In our oral report a year ago, some selections showing valuable commercial traits were discussed: BL122, Regal, RT5176, BL1058, and JF1064. This group is still amongst our most interesting.

BL122 has now been recommended for planting, as it has demonstrated exceptional commercial promise.

Regal by some measure is the best selection to be developed in the UC breeding program. Unfortunately, it has a unique flavor that may not be suitable for commercialization. For future breeding, Regal should be of great value.

Others like RT5176 and BL1058 are serious contenders as pollinators. Isolated plots are currently being established to determine how effective these are in comparison with such standard pollinizers as Bacon, Fuerte, and Zutano.

JF1064, the only green fruit in this elite group, appears to have tree vigor problems. As a result, its heavy production appears to be debilitating.

Partly because of less set in Spring '91 and partly because of heavy work involvement especially with the establishment of grafted plots, only about a dozen new selections were made in '92. However, attention to non-fruiting or inferior seedlings made it possible to discard over 65 % of the total plantings. The remaining material will be closely monitored this year and good set spring '92 should give us some exciting new discoveries. We expect that the 1993-94 crop season will see our decades-long evaluation of own-root raw seedlings largely completed.

Impressive new selections performing mostly for the first time in our replicated plots will be discussed in the oral presentation. Although none are as yet at a stage to be recommended for commercial release, many striking traits can be found in the new material; the future of introductions looks brighter than ever.

The new material requires considerable propagation, expansion, and testing. Our cooperator list is growing more rapidly than the national debt. This will give us data essential to accurate commercial assessment. Martin is spending more and more time with these invaluable cooperators, as well as in UC second-testing plot.

Maintenance of the C.A.S. germplasm plot and the isolated rootstock breeding plots continues. This past year we harvested approximately 8,000 seeds to be tested for root rot resistance.

Lastly, avocado seedlings are remarkably variable in terms of tree size and shape, therefore we are studying various labor-efficient pruning and training techniques to achieve better tree form. Our results may be of value to present commercial varieties, including Hass.

Field to S.L.R.E.C. set '91 Performance

	Selection	Flower type	Fruit Color	Production	Season	Fruit Quality	Notes
Rank ①	Hass	A	Black	Good	mid Feb-July	EXCL.	ALTERNATE BEARING
	BL122	A	"	Hass+	mid March-mid Sept	Very Good	Production inside tree
	RT5176	B	"	Hass++	March-July?	EXCL.	some fruit drop
③	BL1058	B	"	Hass	May-Oct	FAIR/Good	Flesh sl. pale
④ requires more observation	Regal	A	Black	Hass+	March-Sept?	Variable	early sizing handsome
	#530(46)	A	"	Hass(+)	March-Aug.	FAIR/Good	Flesh sl. pale
	L-208	A	Green	Hass+	mid Feb-July	Very Good	regular production
	BL149	A	"	Hass	March-mid Sept.	Very Good	Uniform quality
	WB177	A	"	Hass++	May-Oct.	FAIR	regular production
	BL403	A	Black	Hass+	March-Sept	FAIR	Handsome
	RT2998	B	Green	Hass++	March-Aug.	FAIR	regular production
	BL35	A	Black	Hass+	May-Oct.	FAIR	FRUIT HOLD LATE
	RT5153	B	Green	Hass++	May-Oct	FAIR+	16oz fruit
	⑤ weaknesses observed	L379	?	Green	Hass+	March-July	FAIR
JF1064		A	"	Hass+	March-July	FAIR	" " "
BL524		A	"	Hass+	May-Oct	FAIR	Fruit quality variable
BL135		B	"	Hass++	May-Oct	FAIR	" " "
I41		B	"	Hass	May-Oct.	FAIR	" " "
BL330		A	Black	Hass++	May-Oct.	FAIR?	" " "
HITT		A	"	Hass?	May-Oct	FAIR	16oz fruit

(ms13, ms40, 1201(7), B5101 - early season maturity - quality commercially inferior; WB149, JF344 - DISCARDED)