

50,000 AVOCADO TREES TOPWORKED

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Leaders in the California avocado industry during the past three years have been urging growers to graft over their poorer producing and low quality varieties to one of the five high producing quality varieties. These varieties — Fuerte, Hass, Bacon, Zutano, and Rincon — have been determined desirable from the market and production standpoint and were formally recommended in the fall of 1956 by the Avocado Industry Variety Improvement Committee. In each area of the state one to four of these varieties have proved to be desirable and are recommended.

During the past two springs, avocado growers have heard the familiar whirr of the chain saw and have seen the common white paper covers placed over newly grafted trees. Busy at work were 40 commercial propagators who placed nearly 150,000 grafts in trees all over southern California as hundreds of growers were investing in the future of the avocado industry.

The California Avocado Society was interested in finding out just how many trees had been topworked, what scion varieties were being used, kinds of trees being topworked, and where they were located. They asked the Agricultural Extension Service of the University of California to make a survey for these facts. In order to obtain this information, questionnaires were sent to all known topworkers. Their fine cooperation in replying made this survey of great significance. The steady and good work done by these propagators has resulted in more trees being topworked than most people realized could be done.

	Number of Trees Topworked by Counties		Total No. Topworked In 2 Years	% Topworked Of Total Trees
	1956	1957		
San Diego	7,438	7,402	14,840	1.2
Santa Barbara	6,833	2,453	9,286	7.3
Los Angeles	4,928	4,242	9,170	4.1
Orange	2,568	5,266	7,834	4.0
Ventura	3,698	3,000	6,698	3.5
Riverside & San Ber'dino	1,183	1,554	2,737	10.0
Total for California.....	26,648	23,917	50,565	2.5

In addition, 2,400 trees were topworked in Los Angeles County in 1955. Most of these were Fuertes to Hass, giving a total for this county in three years of 11,570 or 5.3%.

If these 50,565 trees topworked the last two years were put all together at the rate of 85 trees per acre they would make 595 acres. Truly a big step forward in the variety improvement program.

What varieties were cut off to make possible this gigantic topworking program? Most important of all were the 13,761 seedlings varying in age from two to 55 years that were removed to make way for quality fruit like Hass and Bacon. This removed thousands of odd shaped fruit from the market and prevented others from ever reaching it. Seedlings accounted for 28% of all trees topworked.

Approximately 50 miscellaneous **named** guatemalan (cat and dog) varieties consisting of 2,883 trees were beheaded to make way for five varieties of the future. In addition, former commercial varieties like 2,260 Ryan, 1,399 Nabal, 595 Elsie, 292 Edranol, and 119 Puebla trees were grafted. A total of 15% of all trees grafted were either "cat & dog" types or former commercial varieties.

Fuertes were by far the most popular variety to be topworked, with some 27,866 trees being so handled. Growers had finally given up waiting for good crops and profits from this erratic mother of the California avocado industry. Fifty-seven per cent of all trees grafted were Fuertes.

By now some are probably wondering if there was enough graft wood to go around. Apparently so, but there were in certain places some Bacon and Hass trees cut heavily for graft wood. The following table shows that Hass led all other varieties as the most popular graft used:

<u>Variety</u>	<u>Number of Trees</u>	<u>% of Total</u>
Hass	31,487	63
Bacon	6,725	13
Zutano	4,337	9
Fuerte	3,250	6
Rincon	1,757	3
Others	2,065	4
Variety not reported	944	2

As later summaries will show, Hass was preferred over all other, varieties combined in Los Angeles, San Diego, Santa Barbara, and Ventura Counties. Bacon was undisputed leader in Orange County, while Zutano was preferred in San Bernardino and Riverside Counties. Fuerte grafts were used exclusively in San Diego County.

Every grower will be interested in seeing what the trend was in his county. These summaries list under "Out" those varieties which were topworked and "New Top" was the kind grafted. "Cat & Dog" varieties were the multitude of odd Guatemalan types not recently in large commercial production. "Others" in the left hand column means former commercial varieties like Nabal, Anaheim, Ryan, etc., and "Others" in the right hand column are varieties used for grafting which were not one of the five recommended. These latter were mostly Bonita, MacArthur, Jalna, Mayo, and Regina. The totals do not

agree exactly since some scion varieties were not reported and some stocks were unknown to the propagator.

	Out		New Top
San Diego County			
Fuerte	6,673	Hass	9,556
Seedlings	5,306	Fuerte	3,250
Nabal	954	Bacon	1,330
Cat & Dog Var.	695	Zutano & Jalna	646
Others	740	Others	224
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	14,368		15,006
Santa Barbara County			
Seedlings	5,417	Hass	7,131
Fuerte	1,979	Rincon	1,059
Ryan	1,705	Bonita, MacA, Ana	892
Others	167	Others	189
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	9,268		9,271
Los Angeles County			
Fuerte	7,418	Hass	7,419
Seedlings	554	Zutano	649
Cat & Dog Var.	379	Bacon	597
Others	713	Others	207
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	9,064		8,872
Orange County			
Fuerte	6,515	Bacon	4,380
Seedlings	762	Hass	1,580
Others	485	Zutano	1,392
		Rincon	159
		Mayo	235
		Others	12
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	7,762		7,758
Ventura County			
Fuerte	2,698	Hass	4,675
Seedlings	1,760	Rincon	462
Cat & Dog Var.	1,004	Zutano	392
Others	705	Bacon	369
		Others	265
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	6,167		6,163
San Bernardino and Riverside Counties			
Fuerte	2,583	Zutano	1,530
Others	153	Hass	1,126
		Others	55
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	2,736		2,711

Topworking of avocados has a good start in California but the job is far from completed. Every grower should eliminate his undesirable varieties and low-producing trees if he wants the greatest return from, his orchard. Growers who have already topworked will need to give grafts good care and training during the next few years to obtain strong trees capable of producing heavy crops. Every grower who has already started topworking needs to continue this program until it is completed and also sell his neighbor on topworking and variety improvement.

Indications are that grafting will continue for several years. After this, production will increase throughout the industry with superior quality fruit being produced, resulting in better consumer acceptance and more frequent purchases of avocados.