

position had passed their receptive state for pollination before the caprifigs containing wasps were suspended in the trees. It is significant to note that in no instance was there 100% set of fruits at any of the various node positions on the control branches.

Seedless Fig

Fruits which were set with growth regulators grew at about the same rate and reached ultimate sizes equal to fruits which were caprifigged, but matured about two weeks later. The two types of fruits were not markedly different in their external characteristics with the exception that the necks on fruits produced with growth regulators were more pronounced than on the caprifigged fruits.

The most striking internal difference between fruits produced with growth regulators and those which were naturally pollinated was the complete absence of seeds in the former. Pulp of the seedless figs was light amber in color while that of the caprifigged figs was considerably darker, being light strawberry in color. Palatability tests revealed that the two types of fruit were remarkably similar in flavor and the unpleasantness of chewing seeds was absent when figs produced with growth regulators were eaten. Sugar analyses revealed the fact that the seedless figs contained approximately the same quantity of total sugars as did figs which were caprifigged.

No Splitting

The results of this investigation indicate that seedless fruits produced with growth regulators apparently are not subject to the serious problem of fruit splitting.

Although no data have been published to support the conclusion, a considerable amount of evidence has been accumulated which suggests that splitting is the

Treatment and time of application*		Node position †					
		1	2	3	4	5	6
Indolebutyric acid (2670 ppm) in water	Beginning	100	100	33	0	0	0
	Middle	100	67	67	67	0	..
	End	0	0	100	100	100	..
Indolebutyric acid (1500 ppm) in water	Beginning	100	100	100	100	0	0
	Middle	67	33	100	67	67	100
	End	0	67	100	100	100	100
Naphthoxyacetic acid (100 ppm) and indolebutyric acid (2670 ppm) in water	Beginning	100	100	100	100	0	0
	Middle	100	100	100	100	67	0
	End	0	0	33	100	100	100
Naphthoxyacetic acid (50 ppm) and indolebutyric acid (1500 ppm) in water	Beginning	67	100	33	33	33	0
	Middle	100	100	100	100	67	50
	End	0	33	67	100	100	..
Indolebutyric acid (2670 ppm) in oil emulsion	Beginning	100	100	100	100	0	0
	Middle	100	100	100	50	100	50
	End	0	50	50	50	100	100
Check (caprifigged)		0	60	50	80	60	50

* Time in relation to caprification period: Beginning—5/23/47, Middle—6/5/47, End—6/12/47.
 † Nodes numbered 1 to 6 beginning at base of current season's growth.

result of an inherent weakness of the variety which is particularly pronounced under high relative humidity conditions. The percentage of split fruits varies from location to location and from season to season but instances are known where splitting occurred in practically every fruit in several different orchards.

The amount of splitting which took place in the orchard where this investigation was conducted was relatively small, being only about 5%. It is significant that of all the seedless fruits produced with growth regulators, splitting did not occur in a single case.

The experimental results presented here are of a preliminary nature, but they suggest the possibility, that someday the Calimyrna fig grower may be able to spray his orchard with an application of some growth regulator at pollination time and, thereby, eliminate the necessity for using the disease-carrying fig-wasp.

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The preliminary tests, reported above, were conducted jointly by the University of California and the Shell Agricultural Laboratory.

Wasp Aids Oriental Fruit Moth Control

Harry S. Smith

THE INFILTRATION of the Oriental fruit moth into California was discovered in the peach orchards of Orange County in 1942.

The State Legislature allocated a sum of money to the California State Department of Agriculture, part of which was turned over by that Department to the Division of Biological Control for the study of insect enemies of the moth. Economic methods for rearing a parasite of the moth were to be devised for large-scale production.

The most aggressive of several enemies of the Oriental fruit moth seemed to be the reddish-brown parasite, *Macrocentrus ancylivorus*, a wasp with an egg-laying stinger half an inch long—as long as the rest of the insect itself. Its native home is in the eastern United States where it preys upon the strawberry leaf-roller and also upon the Oriental fruit moth since the latter invaded that part of the United States from Japan.

By the spring of 1944, techniques for quantity production were in operation

and during the next three years shipments were made to representatives of the State Department of Agriculture and the County Agricultural Commissioners in the known infested areas in Orange, Los Angeles, San Bernardino, Kern, Tulare, Stanislaus, Fresno, Sacramento, Merced, Placer, Santa Clara, Kings, and Sutter counties.

Should the Oriental fruit moth reach serious proportions, the University would be able to supply breeding stocks and to supervise insectary operations so that interested organizations could immediately start a production program.

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