

ALTERNATE YEAR PRUNING TRIALS 1988

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Objectives

1. To determine whether alternate year pruning can be practiced in prunes without adversely affecting cropping performance.
2. To determine if there is an economic advantage to alternate year pruning.

Procedures

Pruning treatments consisting of annual pruning, no pruning in even years, and no pruning in odd years were initiated in 1986. Pruning was performed in January and fruit size and yields measured in the same season. Treatment orchards were located in Tehama, Sutter, and Merced counties. Pruning has been performed by growers owning those orchards in which the trials were located. Fresh and dry yield/tree (lbs), drying ratio, dried fruit count/lb, and dried fruit size distribution were evaluated again in 1988.

Results

In Tehama county, trees that were not pruned in 1988 had the lowest fresh and dry yield per acre, drying ratio and fruit count/lb (largest fruit) (Table 1). In Sutter county, the fresh and dry yield per tree was higher in 1988 pruned trees. No other differences were noted. In Merced county, trees not pruned in 1988 had greater fresh and dry yields per tree than those annually pruned. The dried fruit count/lb was least in trees annually pruned (largest fruit), next were trees not pruned in 1988, and the greatest dried fruit count/lb was measured in trees pruned in 1988 (smallest fruit).

The cumulative effects (1986-88) of these treatments within each orchard location are presented in Table 2. There were no significant differences in the fresh and dry yield per tree, drying ratio, dried fruit count/lb and fruit that were undersized as a function of the pruning treatment imposed.

The responses to pruning treatments were combined for all locations and years and are presented in a single cumulative result in Table 3. Dry fruit yield/tree, drying ratio, dried fruit count/lb and undersized fruit were not affected by pruning treatment over time and location.

Conclusions

In any one year pruning practice can modify the yield per tree and the fruit size. This has been observed over the last 3 seasons. However, when individual measurements made in each year are combined and the pruning treatments compared it does not appear that any significant effects on fruit size and fruit yield per tree are apparent. Yield efficiency per tree and acre need to be

calculated as well as one year more of data acquired before substantive conclusions can be made with regard to the utility of alternate year pruning in commercial prune production. However, at this time there does not appear to be a yield or fruit size reduction as a function of alternate year pruning.

Table 1. Effect of alternate year pruning on fruit size and yield of French prune in 1988.

County	Treatment	Fresh yield /tree (lbs)	Dry-away	Dry yield /tree (lbs)	Dried ct/lb	Screen size 23 or less (%)
Tehama	Annual pruning	405.4a ²	3.31a	123.3a	59.6a	5.3a
	No pruning in 1988	331.6b	3.12b	106.8b	50.5b	2.1b
	Pruned in 1988	421.2a	3.32a	127.3a	62.0a	4.7a
Sutter	Annual pruning	128.7b	2.7a	47.6b	53.6a	1.8a
	No pruning in 1988	133.6b	2.7a	50.0b	53.4a	1.8a
	Pruned in 1988	163.3a	2.8a	59.3a	57.4a	2.7a
Merced	Annual pruning	148.7b	3.13a	48.5b	68.0c	2.2a
	No pruning in 1988	181.6a	3.14a	57.8a	72.1b	2.4a
	Pruned in 1988	165.5ab	3.12a	53.3ab	76.3a	3.2a

²Mean separation within counties and columns by Duncan's multiple range test at 5% level of significance.

Table 2. Cumulative effect of alternate year pruning on fruit size and yield of French prune in the 1986 through 1988 seasons in various locations.

County	Treatment	Dry yield /tree (lbs)	Dry-away	Dried ct/lb	Screen size 24 or less (%)
Tehama	Annual pruning	119.0	3.00	57.9	9.8
	No pruning in even years	121.3	3.00	60.2	11.7
	No pruning in odd years	125.1	3.00	60.7	10.2
Sutter	Annual pruning	50.5	2.71	62.5	12.6
	No pruning in even years	50.0	2.69	62.3	12.6
	No pruning in odd years	55.4	2.69	62.8	11.9
Merced	Annual pruning	63.2	2.58	73.0	14.4
	No pruning in even years	73.0	2.59	76.4	16.8
	No pruning in odd years	64.1	2.64	78.1	17.1

Three observations (1986-88) created 1 mean value \pm standard deviations.

Table 3. Cumulative effect of alternate year pruning on fruit size and yield in French prune summed for all orchard locations (1986-1988).

Treatment	Dry yield /tree (lbs)	Dry-away	Dried ct/lb	Screen size 24 or less (%)
Annual pruning	77.6	2.76	64.5	12.3
No pruning in even years	81.4	2.76	66.3	13.7
No pruning in odd years	81.5	2.77	67.2	13.1