

Nectarine Size Study, 1959

The California Tree Fruit Agreement, on behalf of the Nectarine Administrative Committee, has asked the University of California to analyze size data collected by the Committee in 1959, with a view to suggesting methods of regulating the sizes of nectarines to be shipped in various containers.

A total of 749 boxes were weighed, with the results shown in Table 1 and Figures 1 and 2. It is seen that there are no consistent differences among the four varieties that were weighed. Cup-packed nectarines were consistently a little heavier than panta-pak, by about 1 pound per 100 nectarines, or 3 to 4 per cent. It should be noted that the range between the lightest and the heaviest boxes in each pack was several times the difference between cup-pack and panta-pak. Elimination of some of the lightest panta-pak boxes would bring the two packs into good equivalence.

Table 2 and Figures 1 and 2 show suggested size limits by weight, which could be easily applied and would provide unquestionably fair treatment to all packs and containers. Of the boxes weighed in 1959 about 9 per cent of the panta-pak and 1/3 per cent of the cup-pack were too light to meet these limits.

A total of 113 boxes were ringed, with the results shown in Table 3. Varieties were not separated in making up this table, because there were not enough measurements of each variety to allow valid comparisons, and also because the weight data showed no consistent differences between varieties, at least in the relation of weight to nominal size.

As with weights, the ring sizes in cup-packed boxes were consistently larger than those in panta-pak boxes, though the differences were small as compared with the range of sizes in each pack. Here again elimination of the smallest panta-pak boxes would bring the two packs into good equivalence,

Table 4 shows suggested ring-size limits. Of the boxes ringed in 1959, 10 per cent of the panta-pak and 1/2 per cent of the cup-pack were too small to meet these limits.

Choice between weight limits and ring-size limits should be based on these considerations:

Data for weight limits is more easily obtained and is usually more adequate. This study is based on 749 weighed boxes and 113 ringed boxes.

Weight is a measure of the average size of all the fruits. Ringing usually separates fruit that passes a certain ring from fruit that does not, but takes no account of how much smaller or larger than the ring the fruits may be.

Ring sizing is easier for unpacked fruit in the field, weighing is easier for packed fruit and in the packing house.

Rene Guillou
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Table 1.--Net weights of packed nectarines.

Size	Variety	Pack	Boxes weighed	Pounds per 100 nectarines		
				Min.	Av.	Max.
60	Late Le Grand	panta	10	35.5	36.5	37.7
	Le Grand	panta	10	36.2	38.8	41.8
	Red Grand	panta	10	33.4	35.4	37.9
64	Red Grand	cup	10	34.8	35.6	36.5
70	Late Le Grand	panta	10	27.3	29.0	32.1
	Le Grand	panta	10	30.1	31.9	33.6
	Red Grand	panta	10	29.9	30.5	31.9
80	Golden Grand	cup	10	23.7	26.1	27.0
	Late Le Grand	cup	23	24.3	26.6	28.2
	Late Le Grand	panta	105	23.6	25.7	28.2
	Le Grand	cup	106	23.8	25.0	29.9
	Le Grand	panta	40	23.6	25.2	26.4
	Red Grand	cup	27	24.1	24.9	27.2
84	Late Le Grand	panta	15	23.0	24.2	25.6
	Le Grand	cup	10	23.0	24.6	26.4
	Le Grand	panta	43	21.1	23.2	24.8
88	Late Le Grand	cup	8	21.2	23.4	25.0
	Le Grand	cup	78	21.8	23.7	26.3
	Le Grand	panta	20	19.8	21.9	24.0
	Red Grand	cup	32	21.1	22.6	24.4
	Red Grand	panta	27	20.2	21.8	23.7
90	Red Grand	cup	10	20.4	21.2	21.5
96	Red Grand	cup	18	18.8	19.8	21.1
	Red Grand	panta	30	19.3	20.4	21.9
Totals		cup	332			
		panta	417			

Table 2.--Suggested size limits by weight.

Size	60	64	70	80	84	88	90	96	(108)
Standard pack net minimum, lbs	21.5	21	20	19	18.5	18.5	18	17.5	(17.5)
Other containers, net minimum, lbs per 100 fruit	36	33	29	24	22	21	20	18	(16)

(No measurements of 108 size, suggested limits are from projected curve, figure 1.)

Table 3.--Per cent of nectarines passing rings of sizes shown.

Size	Pack	Boxes ringed	2 1/8			2 1/4			2 3/8		
			Min	Av	Max	Min	Av	Max	Min	Av	Max
80	cup	12	0	0	0	0	.3	1	5	15	26
	panta	19	0	0	0	0	1	7	5	17	51
84	panta	21	0	1	11	0	6	21	24	62	100
88	cup	37	0	0	0	0	8	48	19	59	90
	panta	14	0	.4	3	0	9	26	52	71	90
96	cup	3	1	2	7	56	59	61	98	99	100
	panta	7	1	2	6	53	66	85	100	100	100
Totals	cup	52									
	panta	61									

Table 4.--Suggested size limits by ring

Size	80	84	88	96
Ring	2 3/8	2 1/4	2 1/4	2 1/8
Allowable to pass, per cent	25	10	20	10

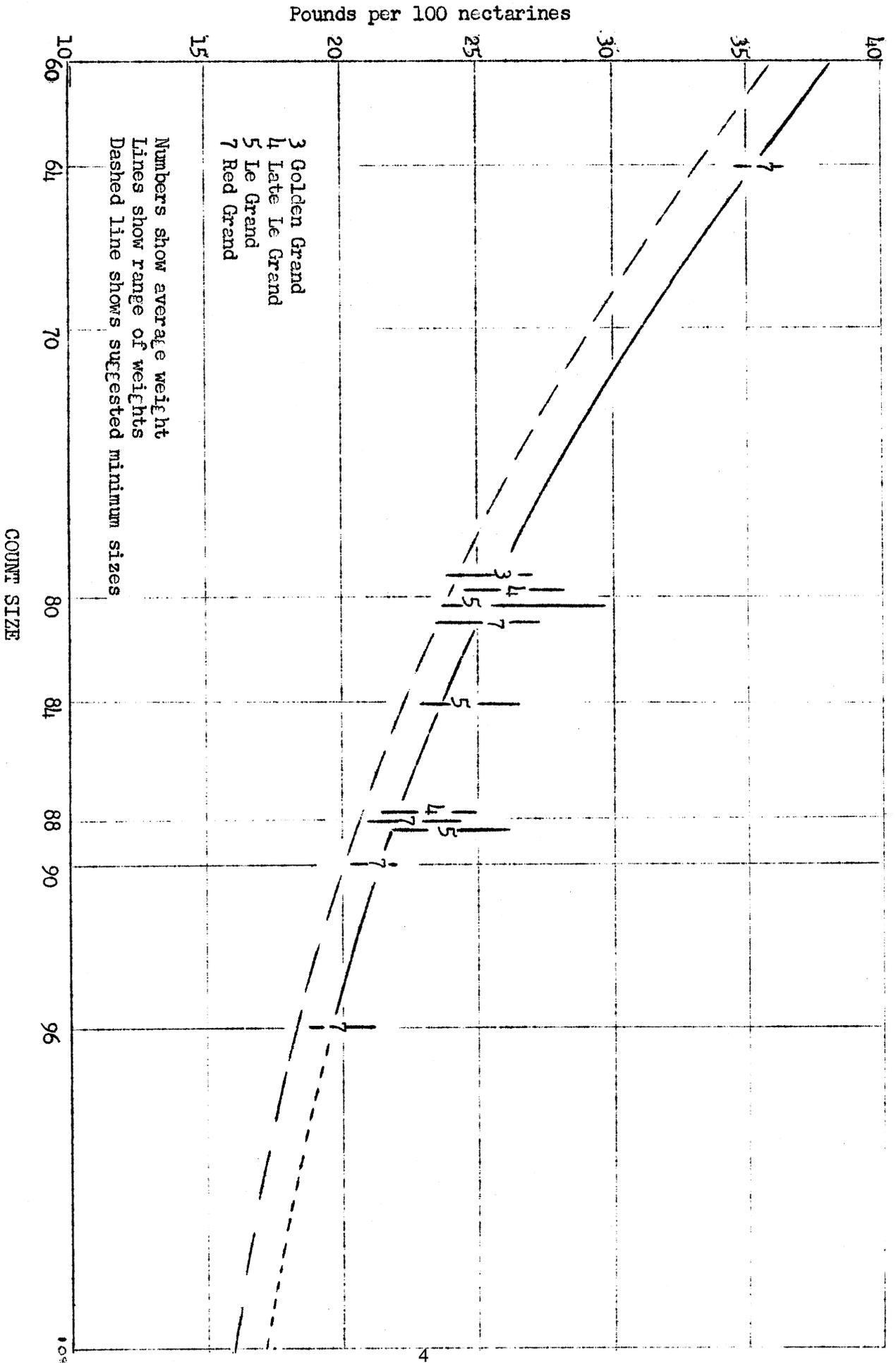


Figure 1. Weights of nectarines in cup-pack.

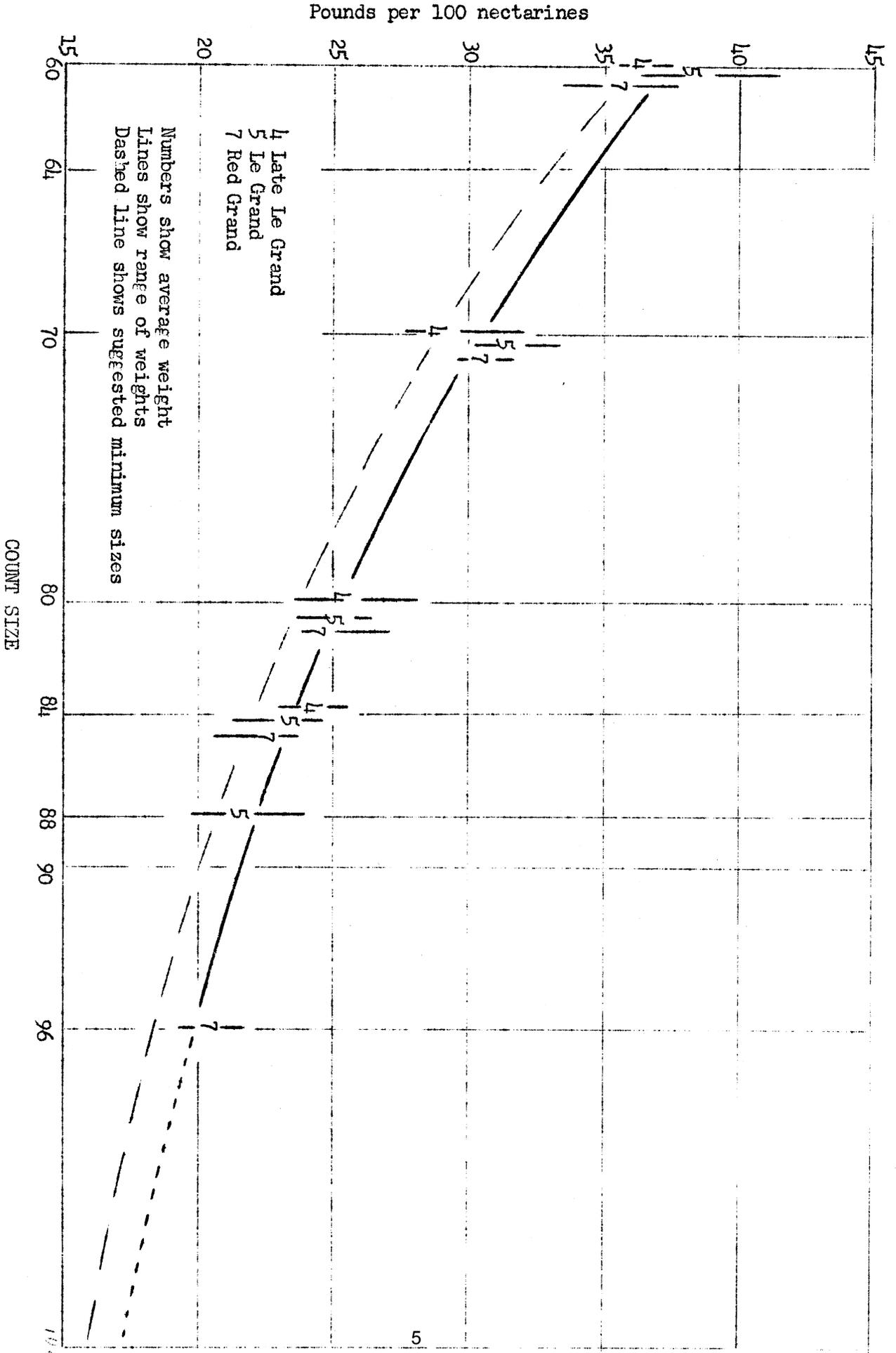


Figure 2. Weights of nectarines in panta-pak.