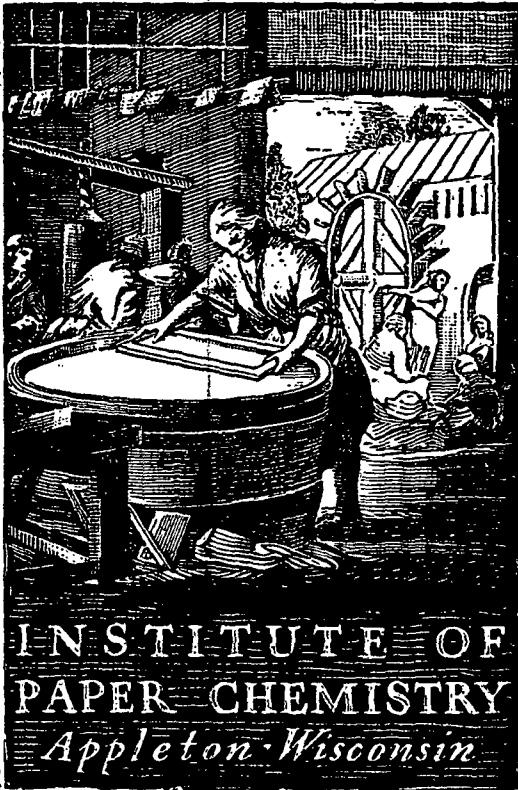


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**THIRTY-SIXTH PRODUCTION DATA  
REPORT**

✓ Project 1108-31

Report Two

A Progress Report

to

**FOURDRINIER KRAFT BOARD INSTITUTE, INC.**

April 1, 1964

THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

THIRTY-SIXTH PRODUCTION DATA REPORT

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THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

THIRTY-SIXTH PRODUCTION DATA REPORT

SUMMARY

Production of fourdrinier kraft linerboard by the sixteen member companies of the Fourdrinier Kraft Board Institute, Inc. during 1963 is summarized in this report. The following data may be of interest:

1. Total production for 1963 was 5,295,496 tons.
2. Total production for 1963 by quarters was as follows:

Quarter	Tons
1st	1,288,045
2nd	1,338,807
3rd	1,327,480
4th	1,341,164

3. Comparison of total production for the years 1960 through 1963 shows that the high level of production achieved during 1960 was nearly matched during 1963 as shown below using average tons per company per year as the basis for comparison:

Year	Av. Tons/Company
1960	334,000
1961	301,000
1962	318,000
1963	331,000

4. There appeared to be no significant trends in the production of major grades during 1963; the miscellaneous classification, however, did show an upward trend.

## INTRODUCTION

The first report in this series summarized the quarterly production of fourdrinier kraft linerboard during 1952 by member companies of the Fourdrinier Kraft Board Institute, Inc. In subsequent reports prepared quarterly, from the first quarter of 1953 through the first quarter of 1961, production data were summarized continuously until the program was discontinued at the request of members of F.K.B.I., Inc. Early in 1963, the members of F.K.B.I., Inc. decided to resume this program but on an annual rather than quarterly basis. Implementation of this decision involved obtaining production data for the quarters that had elapsed since the last report was compiled. As noted earlier, the last report on a quarterly basis summarized production data for the first quarter of 1961. Therefore, the first step in the resumed program was concerned with obtaining quarterly data for the remaining portion of 1961 and all of 1962. Production data for this interim period were summarized in the thirty-fifth report of this series. The current report, the thirty-sixth in this series, summarizes the production of fourdrinier kraft linerboard during 1963 on a quarterly basis.

The following companies submitted production data for inclusion in this report:

The Chesapeake Corporation of Virginia  
Container Corporation of America  
Continental Can Company, Inc.  
Crown Zellerbach Corporation  
Georgia Kraft Company  
International Paper Company  
Olin Mathieson Chemical Corp.  
Owens-Illinois Glass Company  
St. Joe Paper Company  
St. Regis Paper Company  
Tennessee River Pulp and Paper Company  
Union Bag-Camp Paper Corporation  
Waldorf-Hoerner Paper Products Company  
Western Kraft Corporation  
West Virginia Pulp and Paper Company  
Weyerhaeuser Company

It may be noted from this list that sixteen companies have submitted production data for 1963. By contrast, fifteen companies submitted data for the previous report covering the second, third, and fourth quarters of 1961 and all quarters of 1962. Furthermore, prior to the second quarter of 1961, twelve companies submitted data. This growth in number of participating companies is emphasized so that the reader will be cautious in making comparisons of production data which may not involve the same number of companies.

#### PRESENTATION AND DISCUSSION OF RESULTS

Quarterly production data for individual grades, major and minor, are shown in Table I for 1963. Supplementary to the data shown in Table I, the percentage of total production which each major and minor grade represents is given in Table II. In Table II, the percentages of total production represented by each grade of linerboard are calculated using, in one case, total production with production of the miscellaneous grade included and, in another case, total production with production of the miscellaneous grade excluded.

Graphical presentations of total production by quarters (summarized in Table III for 1963) and production of individual major grades by quarters (summarized in Table IV for 1963) are given in Fig. 1 through 10 for 1963 and also for the years 1960 through 1962, the data for the latter years having been taken from the previous report. As noted previously, caution should be used in interpreting these graphs because the number of participating companies has grown from 12 to 16 during the period from 1960 to 1963. To assist the reader, the number of participating companies is indicated on the graphs. The grades of linerboard for which production information is presented graphically in Fig. 1 through 10 are described as follows:

TABLE I

QUARTERLY PRODUCTION OF INDIVIDUAL GRADES FOR 1963

Grade, lb.	Production, tons			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
26	72,627	69,907	73,164	79,835
28	192	443	539	856
30	1,180	1,529	3,521	4,753
32	472	774	514	500
33	88,103	89,568	87,888	89,499
35	49	817	1,772	686
36	465	427	468	505
37		153		227
38	100,933	99,243	122,923	85,581
40	187	529	834	1,136
41		31,179	33	
42	533,550	521,537	539,165	556,929
43	989	340	788	1,113
43.5	243	237	352	231
44	1,041	518	524	1,006
45	2,933	4,043	2,837	3,181
46	28			
47	26,549	23,828	26,271	23,613
50	341	303	214	360
51			241	46
52	1,360	1,352	1,155	707
54	1,199		284	462
56	39			
57	483	483	622	1,566
58	440	1,893	4,059	1,399

TABLE I (Continued)

QUARTERLY PRODUCTION OF INDIVIDUAL GRADES FOR 1963

Grade, lb.	Production, tons			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
60	242	251	489	191
61.5		176	187	
62	336	568	303	642
63		38	17	
64	5,562	6,307	6,321	4,973
65	4			
67	9	8	16	9
69	203,552	199,696	188,975	201,331
70	9,075	8,973	5,322	2,165
73	613	337	406	1,111
75	426	720	973	702
76			140	
78	272	342	251	
81	1,257	1,754	1,256	2,719
82		33		
84	367	1,086		104
85	276	327	254	
88	10,658	13,158	9,652	10,914
90	52,095	55,497	45,529	52,131
91	473	1,472	1,643	1,167
92	6,901	12,072	3,453	4,111
95	228	1,092	1,815	2,178
96	1,224	1,538	1,823	1,211
100	305	503	385	542
Misc.	160,767	183,756	190,102	200,772

TABLE II  
PERCENTAGE OF TOTAL PRODUCTION REPRESENTED BY PRODUCTION OF INDIVIDUAL GRADES FOR 1963  
(Computed on quarterly basis)

Grade, lb.	1st Quarter		2nd Quarter		3rd Quarter		4th Quarter	
	With <sup>a</sup>	Without <sup>b</sup>	With <sup>a</sup>	Without <sup>b</sup>	With <sup>a</sup>	Without <sup>b</sup>	With <sup>a</sup>	Without <sup>b</sup>
26	5.6	6.4	5.2	6.1	5.5	6.4	6.0	7.0
28	C	C	C	C	C	C	0.1	0.1
30	0.1	0.1	0.1	0.1	0.3	0.3	0.4	0.4
32	C	C	0.1	0.1	C	C	C	C
33	6.8	7.8	6.7	7.8	6.6	7.7	6.7	7.8
35	C	C	0.1	0.1	0.1	0.2	0.1	0.1
36	C	C	C	C	C	C	C	C
37	--	--	C	C	--	--	C	C
38	7.8	9.0	7.4	8.6	9.3	10.8	6.4	7.5
40	C	C	C	C	0.1	0.1	0.1	0.1
41	--	--	2.3	2.7	C	C	--	--
42	41.4	47.3	39.0	45.2	40.6	47.4	41.5	48.8
43	0.1	0.1	C	C	0.1	0.1	0.1	0.1
43.5	C	C	C	C	C	C	C	C
44	0.1	0.1	C	C	C	C	0.1	0.1
45	0.2	0.3	0.3	0.4	0.2	0.2	0.2	0.3
46	C	C	--	--	--	--	--	--
47	2.1	2.4	1.8	2.1	2.0	2.3	1.8	2.1
50	C	C	C	C	C	C	C	C
51	--	--	--	--	C	C	C	C
52	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
54	0.1	0.1	--	--	C	C	C	C
56	C	C	--	--	--	--	--	--
57	C	C	C	C	C	0.1	0.1	0.1
58	C	C	0.1	0.2	0.3	0.4	0.1	0.1

Note: Please see end of table for footnotes.

TABLE II (Continued)  
 PERCENTAGE OF TOTAL PRODUCTION REPRESENTED BY PRODUCTION OF INDIVIDUAL GRADES FOR 1963  
 (Computed on quarterly basis)

Grade, lb.	1st Quarter		2nd Quarter		3rd Quarter		4th Quarter	
	With <sup>a</sup>	Without <sup>b</sup>	With <sup>a</sup>	Without <sup>b</sup>	With <sup>a</sup>	Without <sup>b</sup>	With <sup>a</sup>	Without <sup>b</sup>
60	C	C	C	C	C	C	C	C
61.5	--	--	C	C	C	C	--	--
62	C	C	C	C	C	C	C	0.1
63	--	--	C	C	C	C	--	--
64	0.4	0.5	0.5	0.5	0.5	0.6	0.4	0.4
65	C	C	--	--	--	--	--	--
67	C	C	C	C	C	C	C	C
69	15.8	18.1	14.9	17.3	14.2	16.6	15.0	17.7
70	0.7	0.8	0.7	0.8	0.4	0.5	0.2	0.2
73	C	0.1	C	C	C	C	0.1	0.1
75	C	C	0.1	0.1	0.1	0.1	0.1	0.1
76	--	--	--	--	C	C	--	--
78	C	C	C	C	C	C	--	--
81	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2
82	--	--	C	C	--	--	--	--
84	C	C	0.1	0.1	--	--	C	C
85	C	C	C	C	C	C	--	--
88	0.8	0.9	1.0	1.1	0.7	0.8	0.8	1.0
90	4.0	4.6	4.1	4.8	3.4	4.0	3.9	4.6
91	C	C	0.1	0.1	0.1	0.1	0.1	0.1
92	0.5	0.6	0.9	1.0	0.3	0.3	0.3	0.4
95	C	C	0.1	0.1	0.1	0.2	0.2	0.2
96	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1
100	C	C	C	C	C	C	C	C
Misc.	12.5		13.7		14.3		15.0	

<sup>a</sup>This percentage is based on total production with miscellaneous.  
<sup>b</sup>This percentage is based on total production without miscellaneous.

TABLE III

TOTAL PRODUCTION OF FOURDRINIER KRAFT LINERBOARD FOR 1963  
(Quarterly and annual bases)

Quarter	Production, tons
First	1,288,045
Second	1,338,807
Third	1,327,480
Fourth	1,341,164
Total	5,295,496

TABLE IV

QUARTERLY PRODUCTION OF MAJOR GRADES FOR 1963

Grade, lb.	1st Quarter		2nd Quarter		3rd Quarter		4th Quarter	
	Tons	% <sup>a</sup>	Tons	% <sup>a</sup>	Tons	% <sup>a</sup>	Tons	% <sup>a</sup>
26	72,627	5.6	69,907	5.2	73,164	5.5	79,835	6.0
33	88,103	6.8	89,568	6.7	87,888	6.6	89,499	6.7
38	100,933	7.8	99,243	7.4	122,923	9.3	85,581	6.4
42	533,550	41.4	521,537	39.0	539,165	40.6	556,929	41.5
47	26,549	2.1	23,828	1.8	26,271	2.0	23,613	1.8
69	203,552	15.8	199,696	14.9	188,975	14.2	201,331	15.0
90	52,095	4.0	55,497	4.1	45,529	3.4	52,131	3.9
Misc.	160,767	12.5	183,756	13.7	190,102	14.3	200,772	15.0

<sup>a</sup>Percentage of total production for a given quarter represented by each major grade classification.

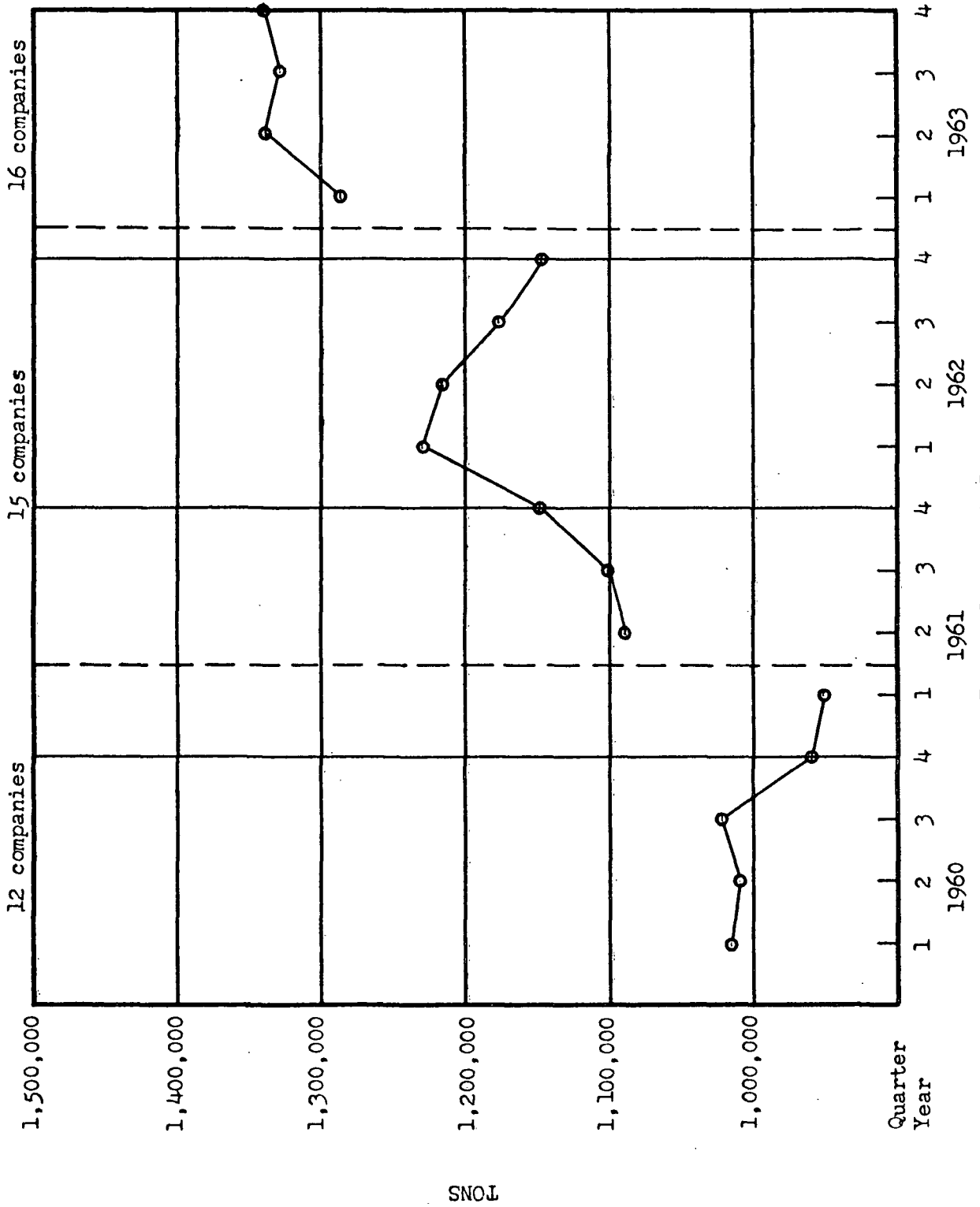


Figure 1. Total Production

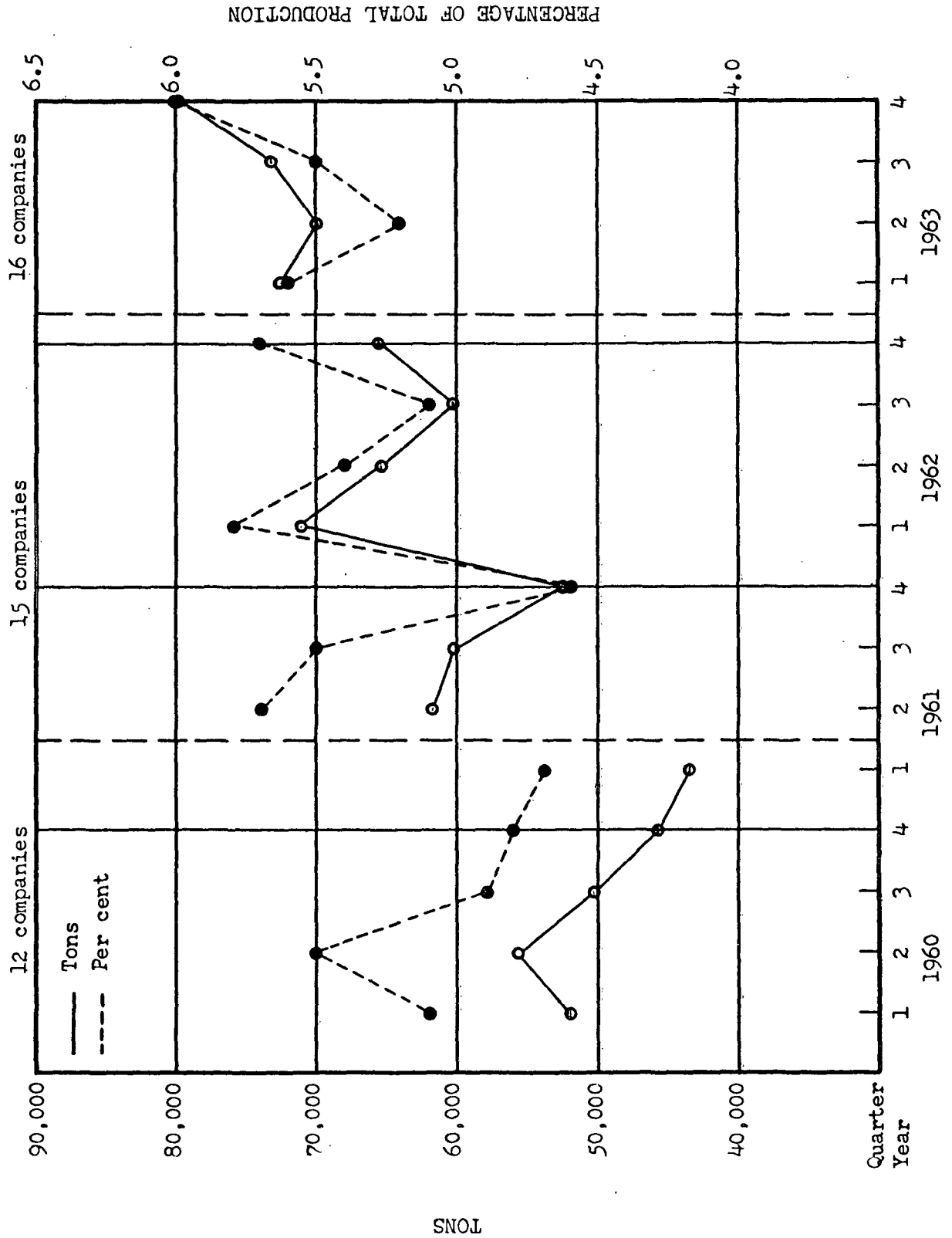


Figure 2. Production, 26 lb.

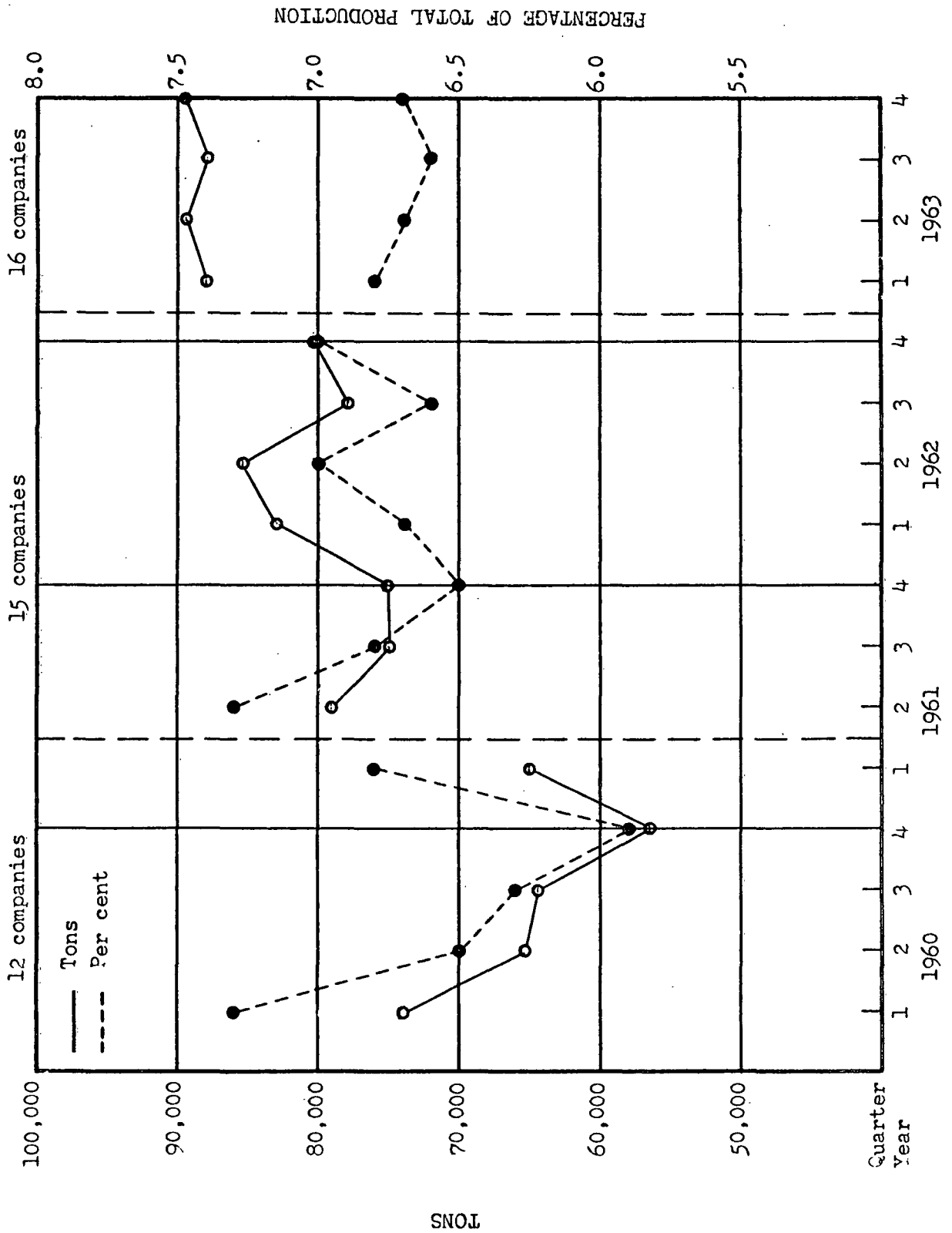


Figure 3. Production, 33 lb.

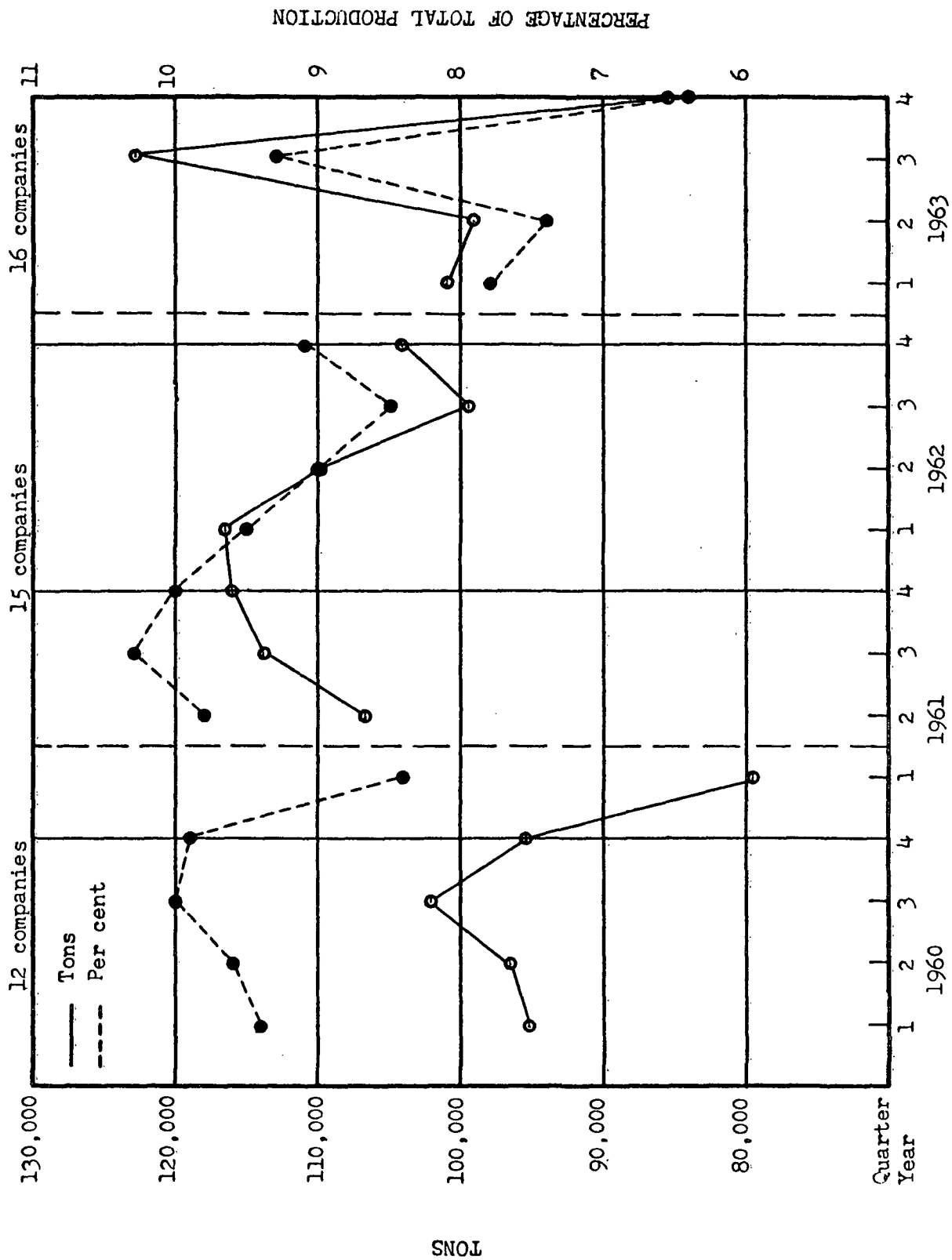


Figure 4. Production, 38 lb.

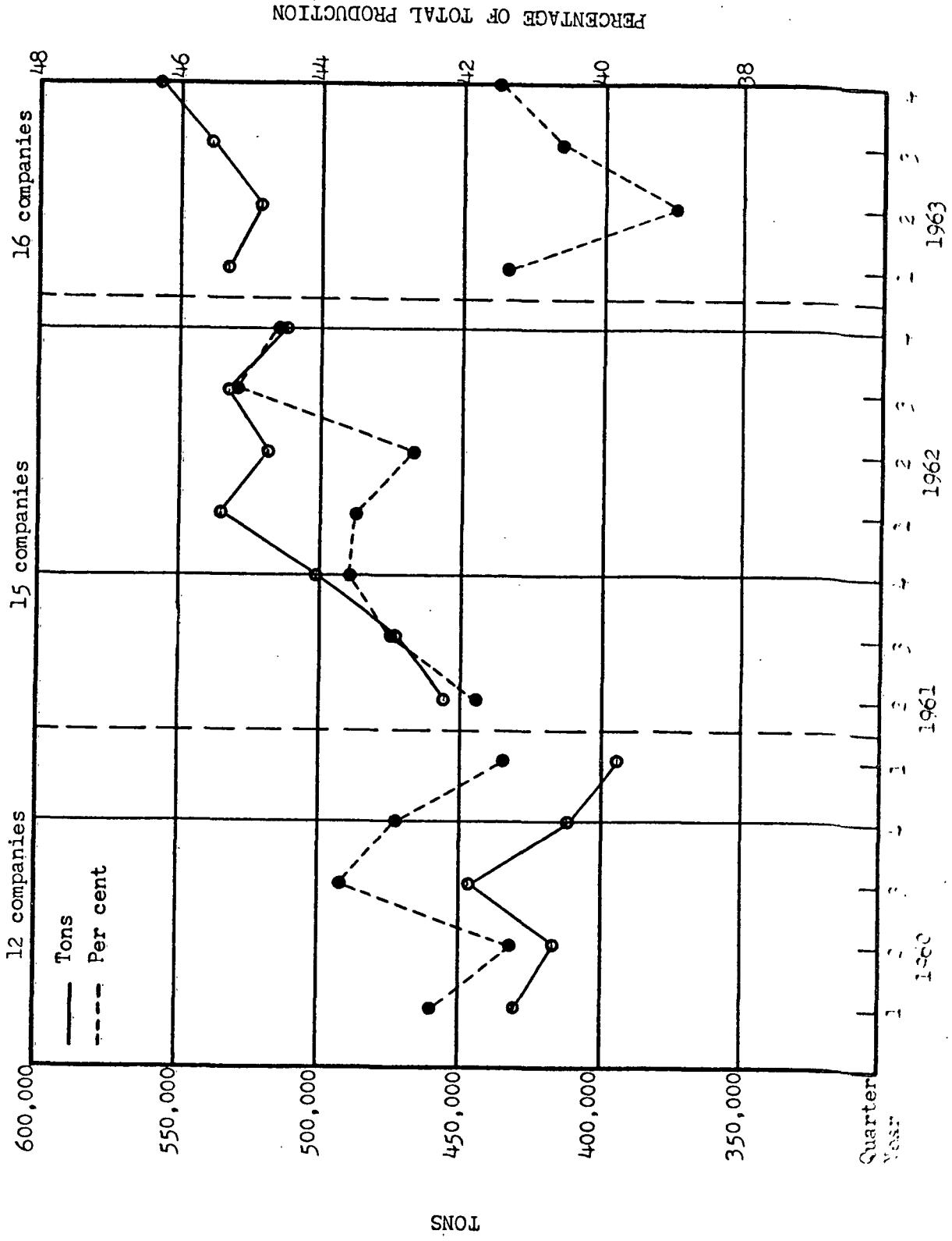


Figure 5. Production, 42 lb.

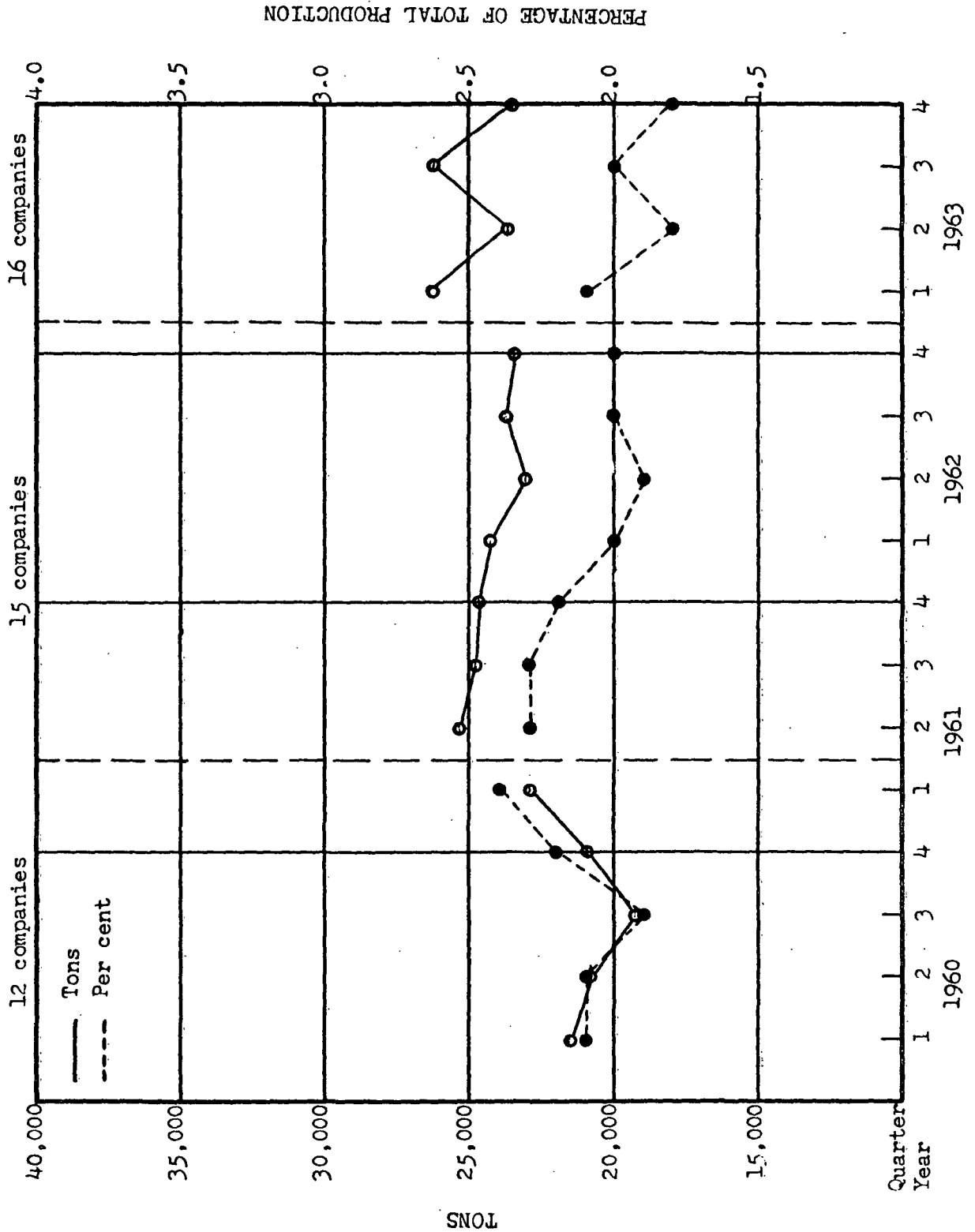


Figure 6. Production, 47 lb.

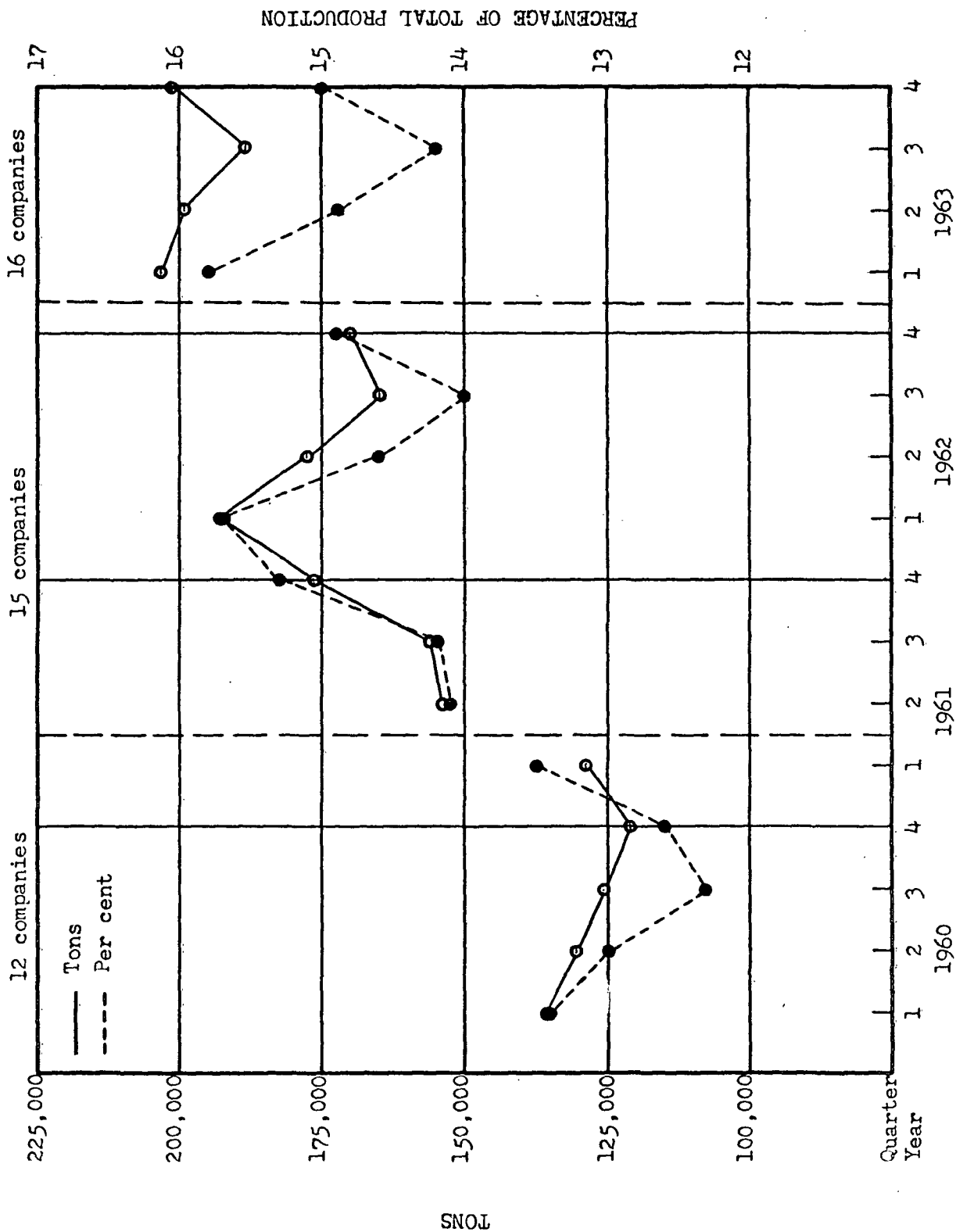


Figure 7. Production, 69 lb.

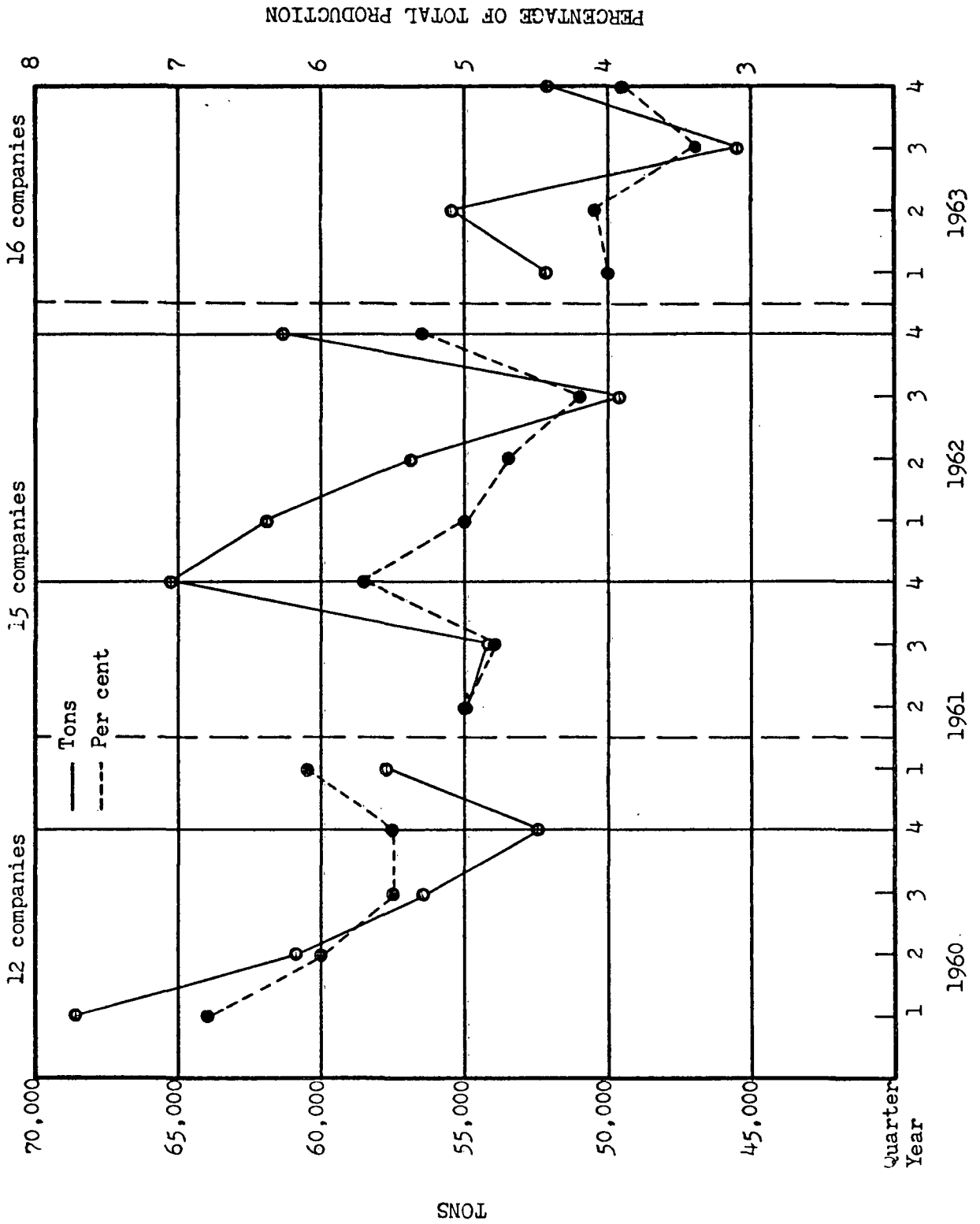


Figure 8. Production, 90 lb.

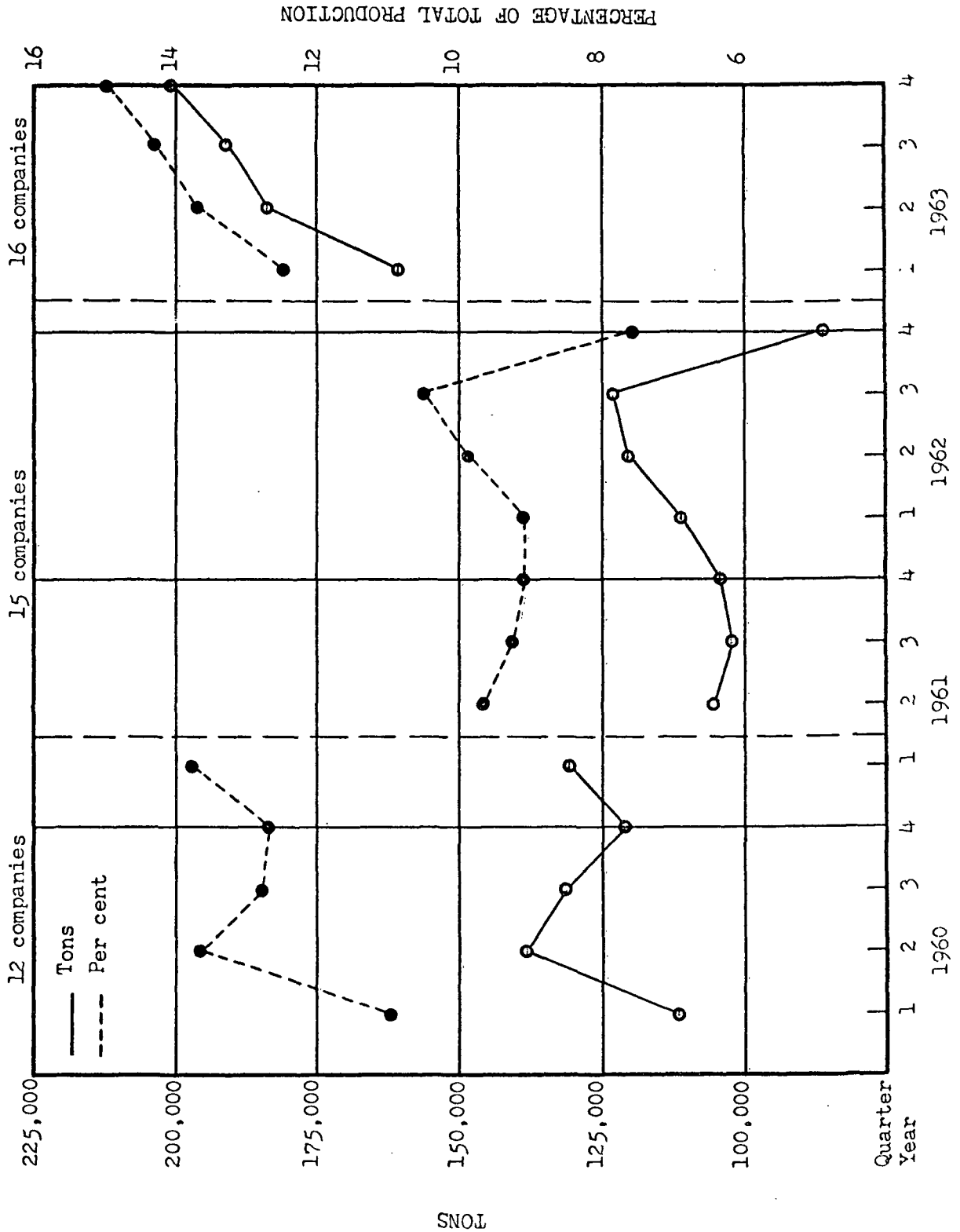


Figure 9. Production, Miscellaneous

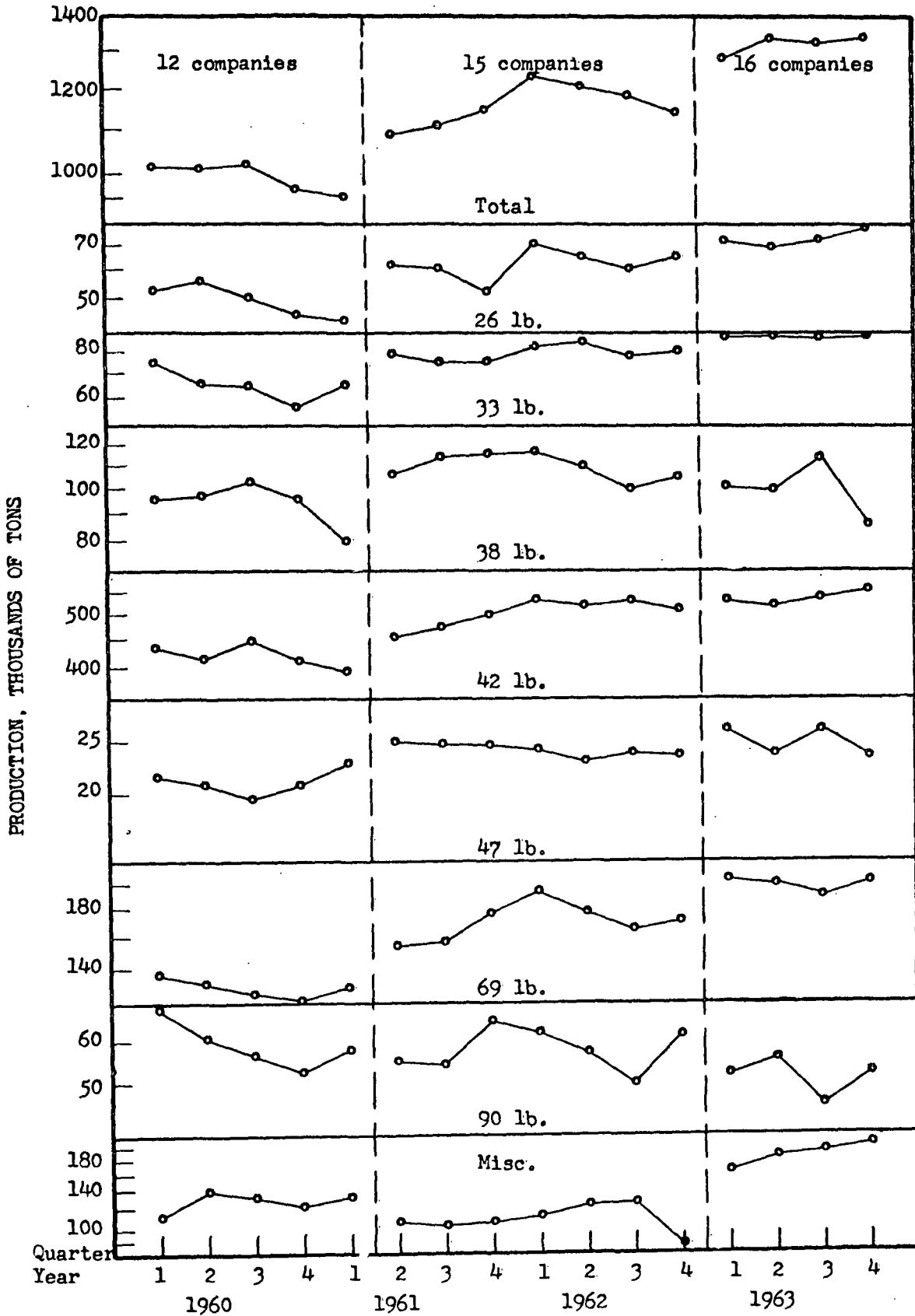


Figure 10. Comparison of Percentage Changes in Production for All Grades

Figure Number	Linerboard Grade
1	Total (all grades)
2	26 lb.
3	33 lb.
4	38 lb.
5	42 lb.
6	47 lb.
7	69 lb.
8	90 lb.
9	Misc.

Supplementary to Fig. 1 through 9 listed above, Fig. 10 has been prepared in which the tonnages of the various grades shown in Fig. 1 to 9 have each been replotted on a semilogarithmic scale for the purpose of comparing the change in production of these grades. A useful measure for this purpose is the "percentage change," i.e., the change in production in tons for a given quarter divided by the tonnage level for the previous quarter, which, in the case of semilog graphs, may be compared readily for various quarters even though the magnitude of the tonnage levels may be vastly different. For example, when two lines connecting any two points are parallel, i.e., their slope is the same, the "percentage change" in production represented by these two lines is also the same. Similarly, when two lines are not parallel, the percentage change associated with the line having the greater slope is higher.

There are numerous comparisons which may be made from the production data presented in the various tables and graphs referred to in the preceding paragraphs. The following may be of interest:

(1) Total production of fourdrinier kraft linerboard, as shown in Fig. 1, has shown the following trends using 1960 as the reference year and tons per company per year as the basis for comparison:

Year	Tons/Company	Trend
1960	334,000	(Reference year)
1961	301,000	10% lower than 1960
1962	318,000	5% lower than 1960 6% higher than 1961
1963	331,000	1% lower than 1960 4% higher than 1962


The data shown above indicate that the high production level of 1960 was attained again during 1963, the loss sustained during 1961 being recovered partially during 1962 and almost completely during 1963.

(2) During 1963, total production of linerboard was lowest during the first quarter (1,288,045 tons) and highest during the fourth quarter (1,341,164 tons).

(3) There appeared to be no significant trends in the quarterly percentages of total production represented by the major grades during 1963, with the possible exception of the "miscellaneous" grade which increased from 12.5% for the first quarter to 15.0% for the fourth quarter.

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