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ECONOMIC TRENDS IN THE LETTUCE INDUSTRY

By J. M. FOOTE

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ECONOMIC TRENDS IN THE LETTUCE INDUSTRY

By J. M. FOOTF

OBJECT OF THE STUDY

Because the present economic status of the lettuce industry is a matter of concern to many growers, marketing organizations, railroads, and other agencies who are dependent, directly or indirectly, upon its prosperity for their own economic welfare, this study has for its object an analysis of the statistical data relating to the industry, with particular reference to its future outlook as indicated by the long-time trends of production, prices, and consumption. While the material presented herein is already familiar to those directly connected with the industry, it is hoped that the facts relating to its economic position may be more easily and comprehensively interpreted by placing the data on a quantitative basis.

The lettuce industry has come of age. For the first time in its history it faces a future when production promises to be more or less static. The problems that will arise out of this situation are concerned chiefly with the competitive aspects of distribution and marketing. With production at a fixed level the struggle for marketing outlets will greatly increase; competition among distributing agencies will become even more severe than it is at present. When considered in the light of the specific information which individuals within the industry may have available regarding their own situation, the material presented in this study should be helpful to growers, as well as others in deciding how to meet the circumstances that confront them.

THE GENERAL SITUATION

The shift in the collective dietary habits of the American public to the non-fat-producing foods has caused an amazing increase in the consumption of fresh vegetables and fruits. The extent, however, to which this class of foodstuffs can be substituted for those previously in common use is limited. Spinach cannot altogether take the place of potatoes, nor can carrots and oranges be entirely substituted for meat and cereals. When a sufficient volume of all

the products necessary for providing a balanced, well-proportioned diet are available a point of saturation will have been reached. Thereafter the rate of increase in the consumption of any given commodity will be roughly proportional to the increase in population, subject also to fluctuations in the national standard of living. A study of the development of the collective fruit and vegetable industries during the past decade shows unmistakably that the saturation point for most products has been almost reached. In Table 1 are shown the comparative annual carlot shipments of 8 fruits and 14 vegetables (Irish potatoes not included) from 1920 to 1931, inclusive. The increase during the 12-year period was approximately 19 percent for the fruits (mostly attributable to gains made by the citrus fruits) and 74 percent for the vegetables. It is notable that most of the gain in vegetable shipments was made during the interval from 1920 to 1928. Since that time there has been no material increase in the annual carlot movement of these products.

**TABLE 1.—ANNUAL CARLOT SHIPMENTS:
8 FRUITS AND 14 VEGETABLES, 1920-31**

Year	8 Fruits*	14 Vegetables†
1920	281,652	183,593
1921	236,569	190,957
1922	351,300	235,296
1923	374,946	219,305
1924	331,347	255,090
1925	368,472	271,685
1926	409,511	286,717
1927	332,802	309,610
1928	431,494	315,169
1929	329,213	341,570
1930	340,891	345,184
1931	345,887	318,808

*Includes apples, oranges, grapefruit, cranberries, grapes, peaches, pears, strawberries.

†Includes asparagus, snap beans, cabbage, cantaloupes, cauliflower, carrots, celery, cucumbers, lettuce, onions, spinach, tomatoes, watermelons, peas.

Competition among food articles has been especially severe during the past decade. The effect of such competition is illustrated in Table 2 which shows the trend of consumption of 14 products during the past 10 years. Oranges, grapefruit, lettuce, tomatoes, and onions have made large gains, mostly at the expense of

wheat, beef, potatoes, apples, and peaches. Eggs and cabbage show no change, while sweet potatoes and bananas have increased only slightly in per capita consumption.

**TABLE 2.—PER CAPITA CONSUMPTION OF 14 COMMODITIES:
1920 AND 1930**

Commodity	Per capita consumption		Percentage increase
	1920—Lbs.	1930—Lbs.	
Apples	76.0	68.0	10.0 (d)
Bananas	17.8	19.2	8.0
Beef	63.0	61.0	3.0 (d)
Cabbage	8.5	8.5	None
Eggs	17.0	17.0	None
Grapefruit	4.5	6.1	35.0
Lettuce	2.3	8.3	261.0
Onions	10.7	13.3	24.0
Oranges	17.6	28.6	68.0
Peaches, fresh	16.8	16.1	4.0 (d)
Potatoes	114.0	98.0	14.0 (d)
Sweet potatoes	45.0	46.8	4.0
Tomatoes, fresh	7.7	9.4	22.0
Wheat	19.2	17.7	8.0 (d)

(d)—decrease.

THE TREND OF LETTUCE PRODUCTION

Among the vegetable products, head lettuce in volume of production now holds second place, exceeded only by Irish potatoes. In 1917 the commercial production of this commodity in the United States was 4,685 carlots, while in 1931 45,500 cars were sent to market. In addition, a considerable volume moved from the producing districts by motor truck; Los Angeles and San Francisco, for example, now receive 80 percent of their lettuce by truck, while New York and Philadelphia get about 10 percent of their annual supply in the same manner.

The secular trend of production for both the Iceberg and Big Boston types since 1917 is shown in Figure 1*, which indicates also the extent to which Iceberg lettuce has replaced the Big

*Secular trends measure the long-time changes in an economic series. They are determined essentially by the forces that affect growth and development from year to year, such as improvements in the standard of living, changes in dietary habits, improvement in production methods, and increases in population. Consequently they describe the smooth, regular, long-term movement characteristic of normal growth, eliminating the transient, short-time fluctuations that occur at frequent intervals.

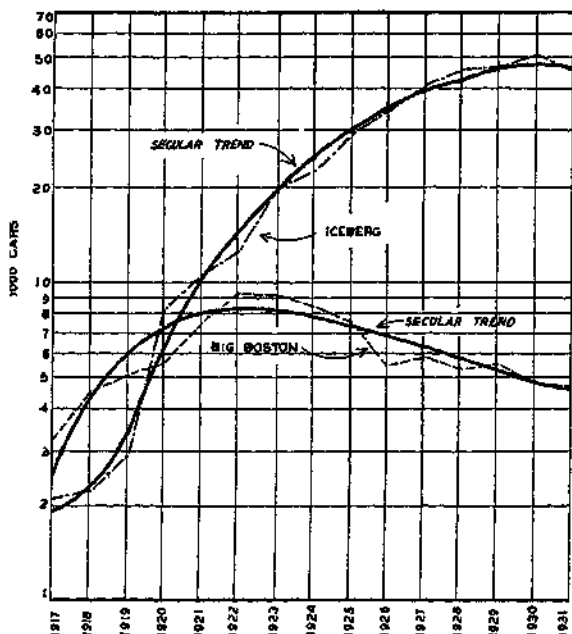


Fig. 1.—Carlot shipments, Iceberg and Big Boston lettuce: 1917-1931.

Boston lettuce in public favor. It is significant that the movement of the two curves shows gradual tendency to level-off—the curve for Iceberg lettuce showing a smaller rate of increase year by year, and the curve for Big Boston shipments exhibiting a correspondingly smaller rate of decrease. Apparently the relative production of both types is nearing a state of equilibrium when it will become increasingly difficult to replace one type with the other.

The forces which have determined the rapidly ascending secular trend of Iceberg lettuce production have been essentially the increase in our standard of living and the change in our dietary habits, assisted by an increase in population. These forces have operated steadily and persistently during the past decade to make production a profitable business and the acreage devoted to this commodity, as a result, has increased from year to year. If these forces were unchanging there is reason to believe that production for the next few years could be forecasted by extending into the future the line of secular trend at its present rate of curvature.

This would suggest that no very material change in the present rate of production will occur. However, the consequences of the present economic upheaval on commodity prices and on the national standard of living may profoundly affect the future trend of production.

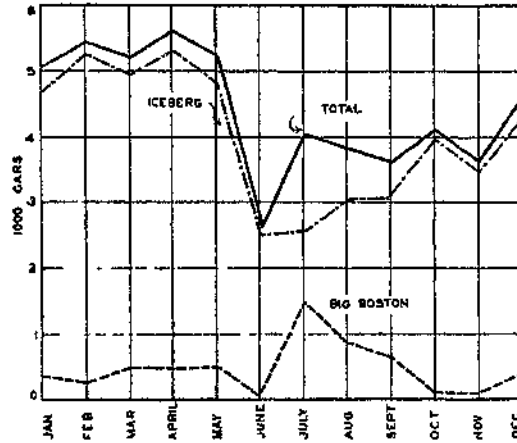


Fig. 2. Seasonal variation in production of Iceberg and Big Boston lettuce: Average 1928-29-30.

SEASONAL VARIATION IN LETTUCE PRODUCTION

The seasonal variation in lettuce production is illustrated in Figure 2, which shows the average monthly carlot movement for both the Iceberg and Big Boston types. Production of Iceberg lettuce during the winter and spring is fairly constant between 4,500 and 5,500 cars a month, at which time there is moderate competition with Big Boston shipments from the southeastern states. June is the lightest production month for both types. Big Boston lettuce, it will be seen, competes with Iceberg most severely during the months of July, August, and September, when the State of New York is shipping most heavily.

PRODUCTION BY STATES

The comparative rate of increase in the commercial production of head lettuce in the principal producing states since 1920 is illustrated in Figure 3. Since 1928 California and Washington have been the only districts to make any gains, while in 1931 production declined in all sections.

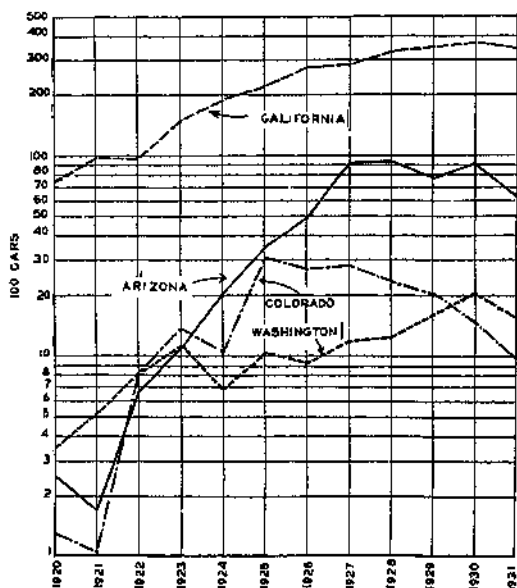


Fig. 3.—Annual carlot shipments from the principal producing states: 1921-1931.

ACREAGE AND YIELD

The relation between the annual total acreage of lettuce in the United States and the total carlot movement, since 1929, is illustrated in Figure 4. The line of trend for shipments, it will be noted, has been increasing at a much slower rate than has the one for acreage. This is especially noticeable during the period 1928-31—shipments were almost stationary but plantings continued steadily upward. A progressive decrease in yield has resulted from this disparity between acreage and production. Figure 5 shows an 11-year comparison of the per-acre yield of Iceberg lettuce in the principal western producing sections and illustrates clearly the extent to which yields in all districts have been declining. Obviously, the per-crate cost of production has increased in inverse ratio to the decline in yield. Several contributing factors are responsible for the decrease in yields, chief of which are, (1) the increasing demand for more closely trimmed heads—the 5-dozen pack is now generally preferred to the 4-dozen pack and most heads in the present 5-dozen pack actually are as large as were those in the earlier 4-dozen pack; (2) more exacting quality re-

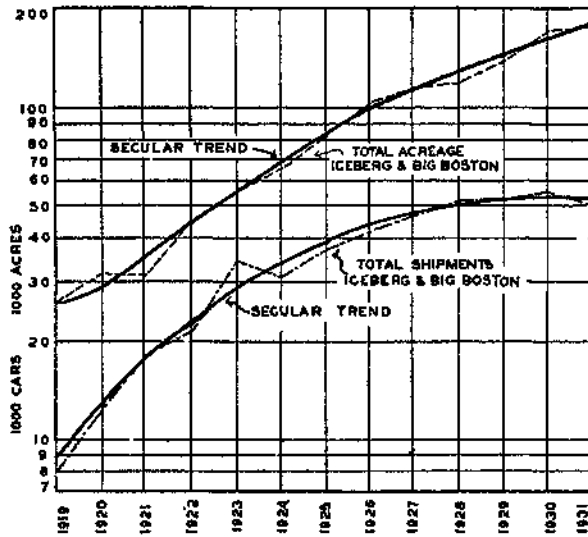


Fig. 4.—Total lettuce acreage and carlot shipments: 1919-1931.

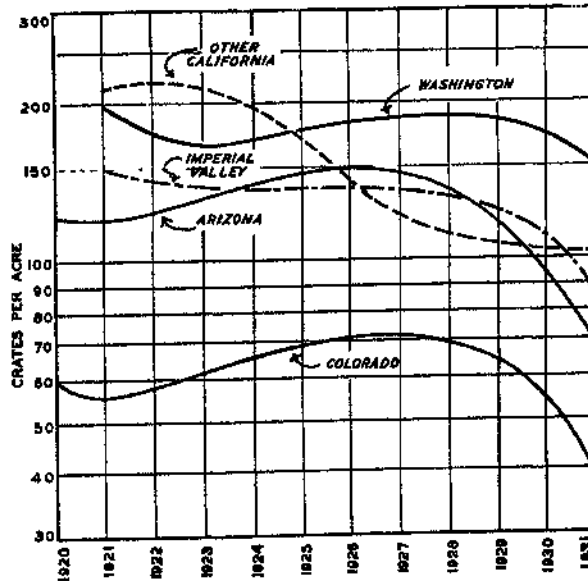


Fig. 5.—Secular trends of commercial yields per acre of Iceberg lettuce in principal producing districts: 1929-1931.

quirements on the part of the buyers which have compelled shippers to improve the contents of their package by discarding the percentage of poor quality, unmerchantable stock which was formerly included in commercial shipments; (3) the planting of considerable acreage in all sections on marginal or sub-marginal soil unsuited to the growing of lettuce; (4) the use of highly bred seed strains, developed for resistance to certain specific diseases or for certain maturity characteristics, in districts where climatic conditions for such strains have been unfavorable; (5) the planting of seed at seasons of the year when the growing risks from natural weather hazards are at their maximum, in an effort to mature a crop when market prospects seem most favorable; (6) the increased use of the f. o. b. method of sale which has justified those shippers who use it more or less exclusively in leaving part of their crop in the field during periods when f. o. b. prices are too low to justify the risk of paying freight charges. From an economic standpoint, the yield decrease in Arizona, California, and Colorado cannot continue; any further losses will compel growers to make substantial acreage reductions. Under present market conditions the grower must produce at least 100 crates per acre if production costs are to be kept in reasonable relation to the average price level.

TREND OF PRICES AND PURCHASING POWER

Price changes are the chief factors influencing the production of agricultural commodities. That is, an increase in price leads to an increase in supply and a decrease in price is reflected in a decreased supply. The rapid increase in lettuce production during the 11-year interval from 1917 to 1928 was not accompanied by a corresponding decrease in prices because consumption increased at about the same rate as did production. Short-time price fluctuations were sharp and frequent but values throughout the period averaged high enough to enable well-established growers to expand their operations and to encourage other growers into production. Since 1929, however, lettuce prices have been in a process of gradual reduction. In Figure 6 is shown the index of monthly weighted-average lettuce prices, f. o. b. shipping point, during 1929-30-31 and part of 1932. Values from month to month fluctuated between a wide range but the downward movement of the secular trend shows

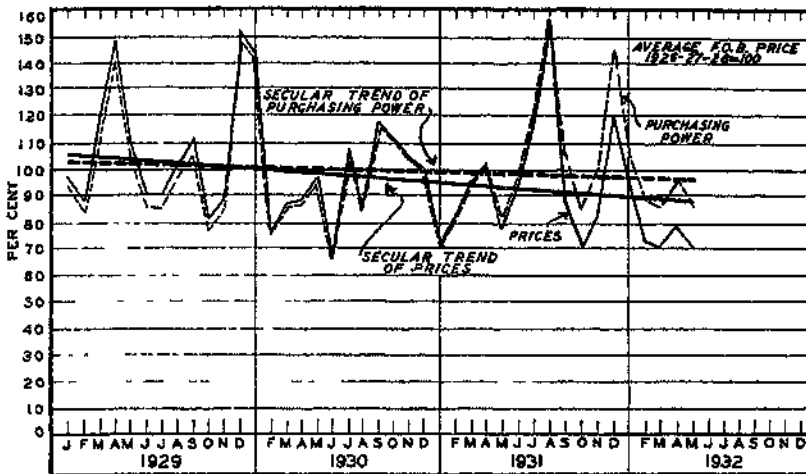


Fig. 6 Index of monthly prices and purchasing power of Iceberg lettuce: 1929-1932.

that prices underwent a decline of 16.8 percent. As might be expected, there was an accompanying decrease in shipments. (See Figure 4.) The trend of lettuce shipments declined 13.6 percent during the period of 41 months. Plantings, however, have increased.

High prices do not necessarily mean prosperity nor low prices depression for the lettuce grower. Prices are high or low only by comparison. If prices are high as compared with the things the grower must buy, he is prosperous; if they are low as compared to the things he must buy, he is not prosperous. Money prices must be converted into purchasing power in order to know the relative position of the grower. Since the chief commodities bought by the lettuce grower are land rentals, labor, power, water, crate materials, transportation, and ice, the price of lettuce must be compared with the price he must pay for these commodities to determine his relative economic situation. Using the average cost of these commodities during 1926-27-28 as a base, the relative purchasing power of lettuce may be determined by dividing the price for any given month by the corresponding index of production costs. The index of production costs since 1926 were as follows:

1926	98	
1927	100	
1928	102	
1929	104	
1930	101	
1931	82	
1932	82	(5 months)

Applying the indices of 1929-30-31 to monthly lettuce prices it will be noted that the prices and purchasing power were in very close relation during the first 2 years. (See Figure 5.) During 1931-32 however, the reduction in production costs maintained the purchasing power of the growers' dollar at a level much more satisfactory than money prices would indicate. The reduction in the purchasing power of lettuce since 1928 was only 5.6 percent as compared with a reduction of 16.8 percent in prices. On this basis the economic position of the lettuce grower is materially better than that of the producer of cotton, grain, meat, or dairy products. Prices of these commodities have declined 50 percent since 1928 while their purchasing power also has shrunk by approximately 25 percent. While the modest decline in the purchasing power of Iceberg lettuce does not seem particularly serious, it means that the growers' margin over and above production costs has been definitely reduced, and its effect will be to discourage further expansion. Should further losses in purchasing power occur, production costs will either have to undergo a similar decline or prices will have to be stimulated by creating a shortage of supplies through a reduction in acreage and a curtailment of supplies.

CONSUMPTION

Accurate data on the consumption of lettuce have only recently become available. Since 1924 the carlot unloads of lettuce in 66 of the largest cities of the United States have been reported by the carriers to the Bureau of Agricultural Economics. These 66 cities, with their contiguous trading areas, consume about 80 percent of the annual carlot shipments of lettuce and their unload figures provide a reliable and fairly accurate index of the trend of consumption. In Table 3 the 66 cities are divided into groups according to their relative population and the annual per capita consumption for each group is tabulated.

**TABLE 3.—PER CAPITA LETTUCE CONSUMPTION IN 64 CITIES:
1924-1931***

Year	GROUP A†	GROUP B	GROUP C	GROUP D	GROUP E	Average all groups
	(8 cities over 1,000,000 population)	(8 cities between 500,000 and 1,000,000 population)	(20 cities between 300,000 and 500,000 population)	(23 cities between 100,000 and 300,000 population)	(5 cities less than 100,000 population)	
	(Heads)	(Heads)	(Heads)	(Heads)	(Heads)	(Heads)
1924	13.2	10.2	—	—	—	12.7
1925	14.4	11.2	—	—	—	13.8
1926	15.5	12.4	15.9	17.8	—	15.1
1927	16.7	12.7	14.0	17.1	14.2	15.8
1928	16.1	14.0	16.3	17.4	22.5	16.0
1929	17.3	14.1	15.8	19.7	21.3	16.7
1930	17.6	16.3	15.7	19.1	23.7	17.1
1931	16.2	14.2	14.8	15.4	22.0	15.6

*Data obtained by converting unloads to number of heads and dividing the result by the metropolitan population of each city for the current year. Population estimates based on data supplied by Bureau of Census.

†Los Angeles and San Francisco not included.

All groups show a progressive increase from year to year, but the smaller cities comprising groups D and E show a slightly greater per capita consumption than do the larger cities of the country, due perhaps to a relatively higher standard of living. With a per capita consumption of 15.6 heads, as shown by all groups for 1931, the average person ate one head of lettuce every 23 days; the average family of four persons used one head each 6 days. This rate of consumption seems modest enough in comparison with the city of Los Angeles—the most intensively developed market in the United States, where 31 heads per person are annually consumed, but with the present existing competition among vegetable commodities it is doubtful if an increase in this level can be expected.

The percentage of total yearly shipments unloaded in each group of cities since 1924 is shown in Table 4. The percentage consumed by the cities of Group A, it will be noted, has been diminishing during the 8-year period and is now fairly constant at slightly less than 50 percent. The proportion of shipments going to cities of less than 1,000,000 population shows a small but progressive increase, reflecting the more recent intensive development of the smaller market areas.

TABLE 4.—PERCENTAGE OF SHIPMENTS UNLOADED IN 66 MARKETS—1924-1931

	1924	1925	1926	1927	1928	1929	1930	1931
Group A	59.1	55.4	55.0	54.3	48.1	50.5	49.6	49.4
Group B	7.6	7.0	9.1	8.5	8.8	8.5	9.5	9.7
Group C	—	—	8.9	11.8	12.7	12.3	12.1	12.4
Group D	—	—	—	7.9	8.3	8.5	8.5	8.7
Group E	—	—	—	.6	.6	.6	.8	.8

Current census figures, for the first time in 40 years, show a drift of population from the city to the farm. The wage earner without employment is migrating to the place where he can again become self sustaining. This movement together with the declining American birth rate and the loss of purchasing power suffered by wage earners and others generally, indicate a probable decline in the per capita consumption of head lettuce, as well as other food stuffs, until complete economic recovery occurs.

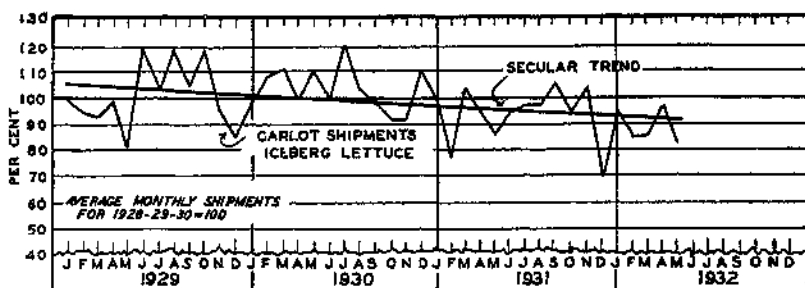


Fig 7.—Monthly Iceberg shipments as a percentage of the seasonal variation in production: 1929-1932.

TABLE 5.—LETTUCE SHIPMENTS BY MONTHS 1920

WEST:	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Ariz	26	89	113	19	—	—	—	—	—	—	—	7	254
Calif.	767	1,175	1,473	774	911	146	68	54	44	192	1,031	723	7,358
Colo.	—	—	—	—	—	8	15	19	79	8	—	—	129
Idaho	—	—	—	—	—	7	—	—	—	7	10	1	25
Oregon	—	—	—	—	—	—	—	—	—	3	—	—	3
Wash.	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	793	1,264	1,586	793	911	203	179	161	213	247	1,041	731	8,123
EAST Total	1,161	427	292	168	239	52	717	593	507	221	389	899	5,665
Total U. S.	1,954	1,691	1,878	961	1,150	255	896	754	720	468	1,431	1,630	13,788

TABLE 5.—(Continued)

1921

WEST:	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Ariz	8	18	12	62	7	—	—	—	—	—	—	61	168
Calif.	1,436	1,386	1,397	1,367	899	281	233	147	131	393	1,007	1,173	9,850
Colo.	—	—	—	—	—	—	4	113	99	18	—	—	234
Idaho	—	—	—	—	—	7	—	—	—	95	—	—	102
Oregon	—	—	—	—	—	—	—	—	—	3	77	1	81
Wash.	1	—	—	—	—	93	140	—	175	90	19	—	518
Total	1,445	1,404	1,409	1,429	906	381	377	260	405	599	1,103	1,235	10,953
EAST Total	875	556	868	752	158	288	958	964	833	670	412	549	7,883
Total U. S.	2,320	1,960	2,277	2,181	1,064	669	1,335	1,081	1,238	1,269	1,515	1,784	18,836

1922

WEST:	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Ariz ...	30	12	50	289	135	—	—	—	—	—	—	162	678
Calif. ...	1,312	902	1,456	2,014	1,294	391	184	104	91	220	676	1,100	9,744
Colo. ...	—	—	—	—	—	8	30	309	387	75	3	—	812
Idaho ...	—	—	—	—	—	37	1	35	9	—	—	—	82
Oregon .	—	—	—	—	—	2	—	3	4	81	38	1	129
Wash. .	—	—	—	—	—	133	243	276	117	69	—	—	—
Total .	1,342	914	1,506	2,303	1,429	571	458	727	608	445	717	1,263	12,283
EAST Total	903	915	1,078	864	430	230	1,078	1,060	695	1,058	726	1,540	10,577
Total U. S.	2,245	1,919	2,584	2,167	1,859	801	1,536	1,787	1,303	1,503	1,443	2,803	22,860

1923

WEST:	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Ariz	240	68	113	246	5	—	—	—	—	—	24	412	1,108
Calif.	1,953	2,043	3,227	1,659	1,410	430	395	507	296	450	1,241	1,502	15,113
Colo.	—	—	—	—	—	11	16	392	743	258	16	—	1,436
Idaho	—	—	—	—	—	245	51	2	4	645	289	5	1,241
Oregon ...	—	—	—	—	2	29	6	—	13	75	43	—	168
Wash.	—	—	—	—	35	525	280	186	45	75	10	1	1,157
Total	2,193	2,111	3,340	1,905	1,452	1,240	748	1,087	1,101	1,503	1,623	1,920	20,223
EAST Total	926	625	759	615	563	70	1,484	1,406	738	545	662	869	9,262
Total U. S.	3,119	2,736	4,099	2,520	2,015	1,310	2,232	2,493	1,839	2,048	2,285	2,789	29,485

1924

WEST:	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Ariz	739	143	43	373	42	—	—	—	—	—	17	692	2,049
Calif.	2,256	3,185	2,461	2,291	1,952	839	380	203	280	1,094	2,065	1,474	18,480
Colo.	—	—	—	—	—	8	23	323	558	117	7	—	1,036
Idaho	—	—	—	—	4	31	—	—	—	259	237	1	532
Oregon ...	1	—	1	1	3	16	1	—	15	49	40	—	127
Wash.	1	—	—	—	26	286	219	81	24	41	19	—	697
Total ...	2,997	3,328	2,505	2,665	2,027	1,180	623	607	877	1,560	2,385	2,167	22,921
EAST Total	810	297	284	222	1,073	81	1,087	1,426	149	1,608	435	753	9,125
Total U. S.	3,807	3,625	2,789	2,887	3,100	1,261	1,710	2,033	1,026	3,168	2,820	2,920	32,046

TABLE 5.—(Continued)

1925

WEST:	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Ariz	791	268	162	726	33	—	—	—	—	—	57	1,482	3,519
Calif.	1,924	2,663	4,093	2,502	2,410	934	640	505	695	1,843	1,338	1,571	21,618
Colo.	—	—	—	—	1	7	261	1,154	1,343	318	11	1	3,096
Idaho	1	—	—	—	17	34	—	—	8	222	198	21	501
Oregon	—	—	—	—	3	11	1	—	2	31	11	1	60
Wash.	—	—	—	—	107	418	189	82	74	142	11	4	1,027
Total	2,716	2,931	4,255	3,228	2,571	1,404	1,091	1,741	2,122	2,556	2,126	3,080	29,821
EAST Total	593	447	732	778	329	122	1,408	1,528	840	209	264	245	7,495
Total U. S.	3,309	3,378	4,987	4,006	2,900	1,526	2,499	3,269	2,962	2,765	2,390	3,325	37,316

1926

WEST:	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Ariz	806	186	222	1,776	40	—	1	2	—	—	8	1,865	4,906
Calif.	3,299	3,241	3,554	1,883	2,944	1,893	1,176	586	1,299	2,944	2,426	2,086	27,331
Colo.	—	—	—	—	—	28	353	1,064	1,213	132	5	—	2,795
Idaho	—	—	—	—	23	35	—	—	3	215	118	4	398
Oregon	—	—	—	2	18	24	—	29	32	55	8	11	179
Wash.	—	—	—	—	186	440	179	32	36	17	27	5	922
Total	4,105	3,427	3,776	3,661	3,211	2,420	1,709	1,713	2,583	3,363	2,592	3,971	36,531
EAST Total	148	132	242	474	617	99	1,004	1,158	767	200	346	363	5,550
Total U. S.	4,253	3,559	4,018	4,135	3,828	2,519	2,713	2,871	3,350	3,563	2,938	4,334	42,081

1927

WEST:	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Ariz	803	188	1,888	2,927	—	—	—	—	—	2	194	3,129	9,131
Calif.	3,640	4,234	2,450	1,731	3,258	1,226	1,282	1,397	1,714	2,949	2,719	974	27,574
Colo.	—	—	—	—	—	10	206	1,218	1,269	142	3	—	2,848
Idaho	—	—	—	—	—	43	—	—	2	98	50	3	196
Oregon	—	—	—	—	2	10	—	16	34	12	2	7	83
Wash.	—	—	—	—	4	636	328	113	69	26	37	3	1,216
Total	4,443	4,422	4,338	4,658	3,264	1,925	1,816	2,744	3,088	3,229	3,005	4,116	41,048
EAST Total	242	132	381	501	270	47	1,106	1,233	882	333	352	272	5,751
Total U. S.	4,684	4,554	4,719	5,159	3,534	1,972	2,922	3,977	3,970	3,562	3,357	4,388	46,799

1928

WEST:	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Ariz	1,186	335	1,649	2,785	32	13	—	—	—	—	219	3,009	9,228
Calif.	3,677	4,817	3,216	2,676	4,949	1,415	1,372	1,496	1,863	3,199	3,610	1,167	33,457
Colo.	—	—	—	—	—	21	233	1,279	771	60	4	—	—
Idaho	—	—	—	—	—	3	—	—	—	42	27	—	72
Oregon	—	—	—	—	2	13	—	19	14	4	5	3	60
Wash.	—	—	—	—	128	505	300	122	54	78	59	2	1,248
Total	4,863	5,152	4,865	5,461	5,111	1,970	1,905	2,916	2,702	3,383	3,924	4,181	46,433
EAST Total	226	118	141	286	541	28	1,101	990	789	293	258	400	5,171
Total U. S.	5,089	5,270	5,006	5,747	5,652	1,998	3,006	3,906	3,491	3,676	4,182	4,581	51,604

TABLE 6.—LETTUCE UNLOADS AND PER CAPITA CONSUMPTION

Population	1924		1925		1926		1927		1928		1929		1930		1931	
	Carlot unloads	Per capita consumption	Carlot unloads	Per capita consumption	Carlot unloads	Per capita consumption	Carlot unloads	Per capita consumption	Carlot unloads	Per capita consumption	Carlot unloads	Per capita consumption	Carlot unloads	Per capita consumption	Carlot unloads	Per capita consumption
GROUP A—Over 1,000,000																
New York City	7,133	14.2	7,484	14.5	8,341	15.8	9,054	16.7	9,098	16.3	9,755	17.2	9,757	16.8	9,770	14.7
Chicago	3,331	16.2	3,900	18.4	4,293	19.7	4,548	20.3	4,491	19.5	4,859	20.5	4,852	20.0	4,341	17.5
Philadelphia	2,319	16.0	2,450	16.6	2,708	18.1	3,140	20.7	2,762	18.0	2,911	18.7	3,357	21.2	3,160	19.7
Los Angeles	1,201	14.8	1,476	16.6	1,840	19.0	1,991	19.0	1,624	14.4	1,686	14.0	1,205	9.4	835	6.0
Boston	836	7.1	1,021	8.5	1,293	10.6	1,516	12.3	1,691	13.5	1,853	14.6	2,066	16.1	1,942	15.0
Detroit	757	8.6	1,085	12.6	1,160	11.8	1,388	13.5	1,406	13.1	1,647	14.7	1,702	14.5	1,562	12.8
Pittsburgh	876	8.8	974	9.6	1,008	9.8	1,087	10.4	1,198	11.3	1,409	13.2	1,478	13.6	1,259	11.5
St. Louis	775	13.7	954	14.5	1,109	16.6	1,271	18.6	1,238	17.8	1,387	19.6	1,627	22.6	1,344	18.0
San Francisco	308	5.1	413	6.6	446	6.9	461	6.9	310	4.6	345	4.9	318	4.4	293	.....
Cleveland	753	13.0	865	14.6	968	15.9	1,017	16.4	916	14.4	1,055	16.2	1,118	16.8	1,127	16.6
TOTAL-AVERAGE	18,289	12.8	20,622	14.1	23,166	15.4	25,473	16.4	24,734	15.5	26,907	16.5	27,480	16.4	24,633	16.2
GROUP B—500,000 to 1,000,000																
Providence .....	.....	.....	.....	.....	146	2.8	199	3.8	270	5.1	275	5.2	271	5.1	295	5.5
Baltimore	619	12.8	667	13.6	760	15.3	819	16.2	843	16.4	875	17.1	996	21.4	834	15.6
Buffalo .....	.....	.....	.....	.....	427	10.1	465	10.8	645	14.7	625	14.2	664	14.8	604	13.0
Cincinnati	564	14.9	547	14.2	541	13.8	561	14.0	548	13.4	561	13.8	712	17.2	652	15.2
Milwaukee .....	.....	.....	.....	.....	300	8.1	341	8.9	403	10.3	444	11.3	523	13.0	488	11.5
Washington	356	11.4	424	13.3	539	16.7	530	16.1	559	16.7	610	18.2	727	21.4	713	20.3
Kansas City	457	15.5	523	17.3	602	19.5	636	20.1	698	21.6	646	20.0	763	23.1	696	20.1
Minneapolis	357	11.5	466	17.6	513	18.7	463	16.3	532	18.2	504	17.2	567	18.8	572	17.8
TOTAL-AVERAGE	2,353	13.6	2,627	14.9	3,828	12.3	4,014	12.7	4,496	13.9	4,540	14.1	5,223	15.9	4,854	14.2
GROUP C—300,000 to 500,000																
New Orleans .....	.....	.....	.....	.....	455	17.9	463	17.9	522	19.8	518	19.2	493	17.9	426	15.2
Hartford .....	.....	.....	.....	.....	.....	.....	130	5.3	179	7.1	187	7.3	179	6.8	237	8.9
Newark .....	.....	.....	.....	.....	110	4.6	250	10.4	538	22.1	561	23.0	645	26.2	763	30.8
Albany .....	.....	.....	.....	.....	.....	.....	159	6.9	185	8.0	237	10.1	243	10.3	245	10.4
Seattle .....	.....	.....	.....	.....	373	17.0	451	20.2	478	21.1	499	21.7	483	20.7	446	18.8
Indianapolis .....	.....	.....	.....	.....	317	14.7	400	18.2	449	20.0	439	19.3	455	20.1	426	18.0
Louisville .....	.....	.....	.....	.....	332	15.9	352	16.6	428	19.8	323	14.6	272	12.1	226	9.8
Springfield Mass. ....	.....	.....	.....	.....	.....	.....	118	5.5	184	8.5	176	8.0	235	10.6	212	9.3
Rochester .....	.....	.....	.....	.....	.....	.....	203	9.7	246	11.5	281	12.9	318	14.4	301	13.4
Birmingham .....	.....	.....	.....	.....	168	8.7	216	10.9	229	11.3	221	10.6	238	11.2	200	9.2
Portland, Ore. ....	.....	.....	.....	.....	383	19.8	491	24.9	513	25.4	447	21.6	441	21.0	400	18.6
Atlanta .....	.....	.....	.....	.....	285	15.7	272	14.5	294	15.2	315	15.8	315	15.3	280	13.2
Youngstown .....	.....	.....	.....	.....	.....	.....	140	7.4	198	10.2	172	8.7	153	7.6	151	7.3
Akron .....	.....	.....	.....	.....	.....	.....	129	7.1	154	8.3	148	7.8	160	8.3	98	5.0
Toledo .....	.....	.....	.....	.....	167	9.5	220	12.2	263	14.2	270	14.3	287	14.9	215	11.0
Columbus .....	.....	.....	.....	.....	244	14.1	307	17.3	357	19.7	354	19.1	407	21.5	363	18.8
Houston .....	.....	.....	.....	.....	.....	.....	268	16.7	307	18.1	333	18.6	362	19.2	319	16.0
Denver .....	.....	.....	.....	.....	558	32.3	597	34.0	709	39.8	678	37.5	568	30.9	529	28.3
Dallas .....	.....	.....	.....	.....	331	22.6	377	24.6	396	24.8	416	25.1	439	25.5	444	24.9
Worcester .....	.....	.....	.....	.....	.....	.....	4	.2	9	.5	14	.8	4	.2	2	.1
TOTAL-AVERAGE .....	.....	.....	.....	.....	3,723	15.7	5,547	13.8	6,638	16.2	6,588	15.7	6,697	15.7	6,279	14.8

Population	1924		1925		1926		1927		1928		1929		1930		1931	
	Carlot unloads	Per capita consumption	Carlot unloads	Per capita consumption	Carlot unloads	Per capita consumption	Carlot unloads	Per capita consumption	Carlot unloads	Per capita consumption	Carlot unloads	Per capita consumption	Carlot unloads	Per capita consumption	Carlot unloads	Per capita consumption
GROUP D--100,000 to 300,000																
New Haven .....	...	.....	.....	.....	.....	.....	251	15.9	342	21.5	336	20.8	314	19.2	252	15.2
San Antonio .....	.....	.....	.....	.....	.....	.....	256	18.3	297	20.5	324	21.6	332	21.4	273	17.1
Memphis .....	.....	.....	.....	.....	.....	.....	291	20.3	305	20.8	327	21.8	315	20.5	285	18.1
Omaha	181	12.6	228	15.7	241	16.4	274	18.5	294	19.7	299	19.8	287	18.9	337	21.9
Norfolk .....	.....	.....	.....	.....	.....	.....	90	5.7	113	7.3	104	6.8	136	9.0	130	8.6
St. Paul	171	12.3	213	15.1	232	16.2	197	13.6	202	13.8	187	12.6	240	15.9	199	9.5
Dayton .....	.....	.....	.....	.....	.....	.....	153	11.6	182	13.5	143	10.4	166	11.9	118	8.2
Syracuse .....	.....	.....	.....	.....	.....	.....	128	9.6	186	13.9	172	12.7	208	15.3	203	15.2
Richmond .....	.....	.....	.....	.....	.....	.....	143	11.9	157	13.0	154	12.6	178	14.5	153	12.4
Nashville .....	.....	.....	.....	.....	.....	.....	129	11.8	159	14.2	164	14.4	184	15.8	163	13.8
Grand Rapids .....	.....	.....	.....	.....	.....	.....	138	12.6	218	19.6	274	24.2	306	26.6	289	24.7
Bridgeport .....	.....	.....	.....	.....	.....	.....	41	36.9	56	5.0	43	38.2	97	8.6	96	8.6
Oklahoma City .....	.....	.....	.....	.....	.....	.....	195	21.6	213	21.1	266	24.9	286	25.5	256	21.7
Salt Lake City	56	6.6	165	18.0	175	20.5	210	24.5	209	24.4	238	27.8	226	26.3	225	26.3
Tampa .....	.....	.....	.....	.....	.....	.....	249	31.9	220	26.4	200	22.6	232	24.7	201	20.2
Fort Worth	129	15.3	196	22.7	196	22.1	223	24.6	235	25.3	253	26.7	235	24.2	173	17.4
Des Moines .....	.....	.....	.....	.....	.....	.....	216	24.5	200	22.6	176	19.8	186	20.8	191	21.4
Duluth .....	.....	.....	.....	.....	.....	.....	95	11.0	103	11.9	104	12.1	116	13.4	115	13.4
Jacksonville .....	.....	.....	.....	.....	.....	.....	195	26.7	159	20.8	140	17.6	171	20.7	166	19.4
Peoria .....	.....	.....	.....	.....	.....	.....	106	15.4	112	16.4	148	19.3	166	20.6	153	18.3
Spokane .....	.....	.....	.....	.....	76	10.7	107	15.0	145	20.3	149	20.8	149	20.8	111	15.6
Evansville .....	.....	.....	.....	.....	.....	.....	68	10.4	89	13.5	101	15.0	110	16.1	105	15.1
El Paso .....	.....	.....	.....	.....	.....	.....	74	12.0	120	19.0	135	20.9	129	19.6	103	14.4
TOTAL-AVERAGE	537	11.9	791	17.3	1,201	17.8	3,829	15.5	4,316	17.2	4,437	17.2	4,769	18.3	4,295	15.4
Population																
GROUP E--Less than 100,000																
Sioux City .....	.....	.....	.....	.....	.....	.....	99	23.1	119	27.5	116	26.6	144	32.7	134	30.1
Shreveport .....	.....	.....	.....	.....	.....	.....	61	16.4	123	31.6	117	26.8	100	22.7	88	19.8
Portland, Me. ....	.....	.....	.....	.....	.....	.....	25	6.4	44	11.3	42	10.7	57	14.6	85	21.9
Terre Haute .....	.....	.....	.....	.....	.....	.....	38	10.7	40	11.4	24	6.9	34	9.8	26	7.5
Lexington .....	.....	.....	.....	.....	.....	.....	68	27.5	77	30.9	94	37.3	99	39.0	79	30.8
TOTAL-AVERAGE							291	16.3	403	22.2	393	22.6	434	23.3	412	22.0

**TABLE 7.—INDEX OF ICEBERG LETTUCE PRICES F. O. B.
SHIPPING POINT—1929-1932***

Year	Jan.	Feb	Mar	Apr	May	Jun.	July	Aug	Sep.	Oct.	Nov	Dec.	Average
1929	97	89	120	148	110	80	90	90	82	81	88	154	112
1930	145	77	87	88	97	68	108	86	118	112	105	100	99
1931	72	83	96	102	77	93	128	154	88	70	82	120	94
1932	95	72	70	78	77	—	—	—	—	—	—	—	

*Base=100=Av. 1926-29 = 1.98.

SUMMARY

1. The western lettuce industry, from a production standpoint, has apparently reached the point of saturation. Any future increases in production will probably be in proportion to the growth of population—about 3 percent a year.

2. Both prices and purchasing power of Iceberg lettuce have been declining during the past 3½ years, partly because of continued overproduction and partly in sympathy with the downward trend of all commodity values. If long continued, this will tend to limit or even reduce production until general economic recovery occurs.

3. Consumption of lettuce in the larger distributing centers of the country has increased, but not in proportion with the increase in production. Cities with less than 1,000,000 population have shown moderate gains, but the greatest increase has been in cities and towns of less than 100,000 population.

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