

# Broiler Chick Hatcheries

## price and production policies of state's hatcheries studied to determine influence on commercial output

Kenneth D. Naden and George A. Jackson, Jr.

**Commercial broiler** production in California in 1952 was over 1300% greater than the average for the years 1935-39.

Increasing concentration and commercialization of the industry—and the need for a uniform high quality product—have made commercial hatcheries a vital factor in this growth. To analyze the price and production policies of the major broiler hatcheries in the state—to achieve a better understanding of their influence on fluctuations in output of the commercial broiler industry—personal interviews with the manager or owner of the 60 largest broiler chick hatcheries in California were made during the period of July 1, 1951 to June 30, 1952.

Broiler chick hatcheries in California are more closely associated with production of hatching eggs than with other related businesses, such as production or processing of broilers. One quarter of the broiler hatcheries surveyed obtained all their hatching eggs from their own flocks.

The hatcheries varied in size from an output of 25,000 broiler chicks to over six million chicks during the year for which records were obtained. The size distribution of the hatcheries shows that a high proportion of the total output in the state was concentrated among relatively few operators. In 1951-52, the five largest hatcheries produced 33% of total state output, and half the hatcheries produced over 84% of the total.

The study showed that California broiler chick hatcheries had—on an aggregate basis—considerable excess productive capacity in the fall and a moderate amount in the spring. This variation was caused principally by the seasonality of demand for chicks—both broilers and flock replacements.

Many hatcherymen reduced the risk of having surplus chicks—at going prices—by setting only enough eggs to produce chicks for which they had standing orders. To accommodate those producers who decided to buy chicks without an advance order, some hatcheries set sufficient eggs to cover both early and late orders. The proportion of eggs set which represented advance orders for chicks was to some degree a measure of the risk assumed by a hatchery. When hatcheries set only on advance orders, they shifted

most, if not all, the risk of broiler price fluctuations over to producers. The over-set policy of hatcheries was not related to fluctuations in output during the year 1951-52.

During the year of the study, California broiler chick hatcheries were rather successful in predicting and adjusting to changes in the outlook for broilers as reflected in producer's demand for chicks. Hatcheries were able to dispose of nearly all the chicks they produced.

In general, the price policy of the broiler chick hatcheries was one of maintaining relatively stable prices—for chicks during the year—and of adjusting output to the amount which could be sold at those prices. The inelastic demand for broiler chicks promoted this type of price maintenance.

The major channel which competition followed was in quality of product and services of the hatchery rather than in the price of chicks.

The credit policy of hatcheries was an important aspect of the price policy. About 13% of the broiler chicks hatched were sold direct to producers on credit with the hatchery carrying the mortgage. Another 15% to 20% of the broiler chicks were sold on credit by joint financing of the hatchery and a feed company, with the hatchery carrying a second mortgage. Another 35% of total output was sold for cash to feed companies and other financing agencies who in turn sold on credit to producers.

### Payment for Hatching Eggs

The egg-buying practices of broiler chick hatcheries were also related to output policy. The three major methods of payment for hatching eggs were: 1, straight price per dozen throughout the year; 2, no cash price paid for eggs from the hatchery's own flock; and 3, a fixed premium over the quotation for market eggs. The egg cost of a chick was about 65% of the total cost. Therefore, the differences in prices paid for eggs under these systems were in sharp contrast to the stability of chick prices during the year. After allowing for variations in hatchability in the different seasons, the egg cost represented from 58% to 65% of the price of chicks for the hatcheries

paying a fixed price. The same percentage varied from 50% to 71% for the hatcheries paying on the fixed margin basis. This contrast suggests that during the year of the study, costs of hatching in the different seasons were not closely related to prices charged.

Hatcheries incur an unnecessary risk when buying eggs on the basis of market egg prices. This system of buying makes earnings of a hatchery more erratic because earnings are reduced when market egg prices are at a high level and earnings are excessive when egg prices are low. The risk occurs because the high earnings in one period may not counterbalance the low earnings of another period. This system creates another risk—that of low earnings to the hatching egg flock owner. He is less able to withstand a period of low market egg prices than is the hatchery operator and is unable to increase or decrease production as rapidly as the market egg producer. Low market egg prices can create the danger of shortages of hatching eggs because of producers leaving the business. Difficulties in using the fixed margin system would provide a strong incentive for hatcheries to develop and maintain their own hatching egg flocks.

The price of market eggs is not a good measure of the value of hatching eggs, primarily because the supply-demand forces for each are not the same. On the supply side, the greater efficiency of the light breeds for producing eggs, as compared to the meat-bird breeds, puts them in a separate class. In addition, the difficulty and cost of getting into the production of hatching eggs are much greater than those for market eggs. On the demand side, the value of market eggs is related to consumer income, seasonal and temperature changes, and the supply of competing proteins. An alternative system would take into account the factors related to the supply and demand for hatching eggs themselves.

The study showed that—in general—broiler chick hatcheries in California could potentially exert an influence on changes in the number of broilers produced: *a*, through their influence on the number of hatching eggs available; *b*, through their credit and other activities designed to promote more production of

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## CARROTS

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were grown near San Jose for comparison as to composition.

The test roots were harvested at the proper stage for market. Two lots were grown in the same area; one was harvested in August and the other in February. Examination showed some variation in composition within the four varieties. Imperator seemed to be high in composition for several of the constituents—dry matter, energy, calcium, and phosphorus. The Nantes variety was low in phosphorus, vitamin A, and riboflavin. Imperator seemed relatively high in many of the nutrients. The differences between varieties as to waste in preparing the roots were not important.

The results of the tests reported here are a survey and indicate possible trends, since the experiments and plots were not replicated and therefore cannot be statistically analyzed.

*M. Yamaguchi is Lecturer in Vegetable Crops, University of California, Davis.*

*Betty Robinson is Senior Laboratory Technician, University of California, Davis.*

*John H. MacGillivray is Professor of Vegetable Crops, University of California, Davis.*

*L. J. Clemente, J. W. Perdue, and Laura Morse, University of California, Davis, assisted in the experiments described in the foregoing article.*

*The foregoing article is based on the technical report Some Horticultural Aspects of the Food Value of Carrots by the same authors and published in the Proceedings of the American Society for Horticultural Science, 60:351-359, 1952.*

## BROILERS

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broilers; and c, through their oversetting and undersetting practices.

The first two of these factors have their principal influence on long-run changes in output; the last principally affects short-run changes. Except for these factors, hatcheries acted in the capacity of suppliers of chicks in accordance with the orders of their customers.

During the year of this study, California broiler chick hatcheries appeared to be a neutral influence on short-run changes in output in that there was little evidence that they made significant production decisions other than decisions to utilize their excess production capacity, to take advantage of changes in their customers' minds, and to avoid surpluses. The chicks hatched as a result of these decisions represented a small proportion of their total output.

*Kenneth D. Naden is Assistant Professor of Agricultural Economics, University of California, Los Angeles.*

*George A. Jackson, Jr., was Assistant Specialist in Agricultural Economics, University of*

*California, Los Angeles, when the above-reported study was made.*

*The above-reported study is part of a larger project which will include analyses of the role of hatcheries, financing agencies, processors, and broiler producers on broiler output fluctuations. The over-all project is being conducted by the Western Regional Poultry Marketing Committee, WM-7.*

## POINSETTIA

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develop properly. These deformed bracts are unable to reach maturity but abscise and leave the open center commonly seen in plants of the Henrietta Ecke variety.

Plants which were grown under maximum light intensities—about 3,000-foot candles—produced flowers with normal central bracts. Plants under low light intensities—500- to 600-foot candles—abscised bracts readily. Furthermore, plants grown under high light conditions had larger outer bracts, a more intense color, were shorter, and were generally more desirable plants than those grown under low light conditions.

Quality plants of the double-type Henrietta Ecke variety can be produced and timed for the Christmas holiday trade by growing the plants under high light intensity conditions—with modification of usual watering and fertilizing practices—and by later propagation to avoid too tall plant growth. Such changes may take some time, but when growers do make them, the public will be rewarded with top quality double poinsettias.

*Anton M. Kofranek is Assistant Professor of Floriculture and Ornamental Horticulture, University of California, Los Angeles.*

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## PONDEROSA

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demonstrated in the first experiment. It may well be that within the completely artificial system that was set up in these experiments, vapor pressure gradients exist which do not exist under natural

## GROUND PEARL

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festations have been encountered in heavy clay soils.

Since ground pearls have been found on grape roots 24" deep—which was the approximate extent of root penetration—it seems likely that they may be found even deeper.

## Insect Described

The adult female of this pest has well-developed forelegs bearing strong claws. She produces an egg sac of white waxy filaments and deposits within it over 100 eggs, which are pinkish-white in color. The dead body of the female closes off the end of the egg sac. Hatching observed in 1954 began during the latter part of June and continued into late July. The crawlers are elongate, slender, and quite active. They attach themselves by means of their needlelike mouthparts to a fine rootlet and eventually secrete the hard, glassy covering characteristic of the intermediate pre-adult stages. It is from the appearance of these later immature stages—globular in shape and with a pearly, faintly yellowish-green color—that the common name ground pearl is derived. Other details of the life history of this potential pest to California grapes are at present unknown.

Additional studies of this subterranean scale insect are planned, including chemical control tests.

*M. M. Barnes is Assistant Entomologist, University of California, Riverside.*

*C. R. Ash is Senior Laboratory Technician, University of California, Riverside.*

*A. S. Deal is Farm Advisor, Imperial County, University of California.*

soil conditions. Continuing work should provide the answer.

*Edward C. Stone is Assistant Professor of Forestry, University of California, Berkeley.*

*Ami Y. Shachori is Senior Laboratory Technician, University of California, Berkeley.*

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### Water Removed from Flask

Accumulative total in milliliters

Elapsed time (days)	Live seedlings started May 1				Live seedlings started July 1				Dead seedlings			
	1	2	3	4	1	2	3	4	1	2	3	4
1	1.5	1	1.5	1	3	.5	1.5	.5	0	0	0	0
4	6	5	6	5	5.5	1.5	4.5	3.5	0	0	0	0
7	17	8.5	10	8.5	7.5	2.5	6.5	6.5	0	0	0	0
13	30.5	11.5	16.5	13.5	10.5	4.5	10	11.5	0	0	0	0
19	36	14	28	21	11.5	6	13	13.5	—	—	—	—
25	65	17	40	29.5	13.5	8	16.5	16.5	—	—	—	—
31	82	—	62	45	14.5	9	20.5	18	—	—	—	—