

ment converted to a piece-rate basis. These rates and the total season cost for various season output of packed fruit handled are given in Table 6.

Total Costs per Season.—The summary of total season costs for picking, hauling, packing and selling is given in Table 7. The costs are divided into fixed cost, direct labor and equipment cost, and other cost. Other costs include materials; various assessments; power, fuel, water, etc.; and total administrative and selling expenses. The methods used in calculating fixed and direct costs have been discussed. Other costs were calculated by multiplying the piece rate given in the specifications for each item by the season volume. Total costs per season for the various season outputs were obtained by adding the elemental costs. Average costs per season were estimated by dividing the total costs by output.

Long-Run Average Cost Curve for Single-Unit Model Packinghouses.—An approximation of the long-run cost curve is obtained by plotting the short-run average total unit cost curves for packinghouses with "efficient" capacity rates of 200, 450 and 750 boxes per hour, in addition to the 300 boxes per hour for which the computation of costs was given, and then drawing an envelope curve tangent to these derived curves. The resulting relationship approximates the long-run average cost curve for the particular segment of the industry. This curve is often referred to as a planning curve because of its importance to economic interpretation of production problems.⁵

The estimated packinghouse cost curves and the long-run cost curve for single-unit model packinghouses are shown in Figure 2. The individual packinghouse cost curves first decline and then level off as the seasonal volume is increased. The long-run average cost curve, when drawn tangent to the individual packinghouse cost curves, declines and levels off within the range of packinghouse size for which costs were developed. This long-run average cost curve decreases primarily for two reasons: (1) more efficient use of certain indivisible worker assignments (checker, foreman, night watchman), and the guaranteed weekly pay of these and certain other key workers, and (2) higher economic efficiency from larger equipment (a large machine usually has lower costs per unit of output than the small version of the same machine).

⁵ R. G. Bressler, Jr., "Research Determination of Economies of Scale," *Journal of Farm Economics*, Vol. XXVII (August, 1945) p. 528.