

survey questionnaires. The questionnaires were employed to collect data on the cultural and handling practices used in producing, processing and distributing tomatoes and strawberries, as well as the socio-economic attributes of growers, packers and distributors.

In the third stage of the project, data necessary for the empirical analysis were acquired from primary and secondary sources. Data on pesticide residues found in strawberries and tomatoes were obtained from the Florida Department of Agricultural and Consumer Services (FDACS), Division of Chemistry, Chemical Residue Laboratory (CRL). This laboratory is responsible for the chemical analysis of poisonous or deleterious chemical residues remaining in or on human food and animal feed that is produced or marketed in Florida. Field agents for CRL collect samples of fresh and processed agricultural products from around the state at various stages of the marketing channel. These are rushed to CRL laboratories where they are checked for chlorinated hydrocarbon, organophosphate and carbamate pesticide residues using multi-residue screening procedures. If any of these types of pesticide residues are detected by the screenings, then appropriate quantitative chemical assays are performed. Chemical analysis of most samples is completed within 48 hours after collection. In order to maximize the effectiveness of its monitoring effort, CRL sample collection is weighted more heavily toward those commodities and growing seasons which have a greater potential for accumulated residues. Consequently, the sampling procedures used by the CRL are not entirely random.

The residue analysis results of 307 tomato and 113 strawberry samples were acquired from CRL and converted to a micro-computer database format. These samples provided a list of potential interviewees from whom corresponding cultural and handling practices data could be collected. Survey questionnaires for each market stage were developed to elicit the characteristics of, and production and handling practices used by the sampled growers, packers, and distributors. A review of previous National Agricultural Statistics Service (NASS) Chemical Use Survey questionnaires was useful for this purpose. The enumeration of this survey was carried out by the Florida Agricultural Statistics Service (FASS) under a contractual arrangement. FASS personnel also contributed substantially to the development of the questionnaires. A total of 338, or 80 percent, of a possible 420 interviews were successfully completed. Weather data consisting of monthly observations for rainfall and average temperature at 34 locations within the state of Florida were obtained from the National Weather Service. These locations were chosen for their proximity to the FDACS sample collection sites.

The fourth stage of the project consisted of reviewing and editing the residue data obtained from CRL, and the practices and attributes data collected through FASS. A number of problems with the accuracy and completeness of the data were encountered. These included: incomplete recording of residue sampling data that was considered important for accurate field or lot identification at the grower and packer stages; inconsistent coding of respondent's refusals to answer specific survey questions; inconsistent responses among related survey questions; and considerable variability in compliance to different questions in the survey.

The final stage of the project involved measuring and evaluating the statistical relationships among the data in order to substantiate or refute the stated hypotheses. Results