

## Site selection for horticulture - a new set of criteria

M.B. Spurling

With facilities now available for rapid long distance transport and long term storage of perishables, sites for commercial horticultural production in future will be those that will give produce at the market at lowest cost on an Australia wide basis rather than maximum production by restricting plantings to sites on ideal soils, or minimum transport costs by selecting sites close to markets. A lower level of production may be acceptable if the site allows a balancing saving through lower production costs. Large area, block plantings of orchard and vine fruits suitable for mechanisation, often at distances from markets, have replaced the "fruit salad" orchards and vineyards close to markets, of 25 years ago.

Selection of regions for production must still be made on solar radiation/temperature records and the availability of adequate rainfall or irrigation water. Site selection within a region however, by landform studies rather than detailed soil surveys, is now the method used to select the site within the region. Detailed studies of soil profiles, as in the traditional soil survey developed during the period 1925-50, has little relevance to the criteria now used in land use surveying for horticulture in South Australia. The economies of large block plantings, with long rows and minimum headlands has led to an acceptance of less than the desirable soil specification for each crop to achieve monoculture. Spray irrigation which does not require specific land gradients has replaced the furrow method.

Grower experience has defined in general terms of depth and texture/ structure, the minimum soil specifications required for maximum production of the crops within each broad climatic group.

Areas for new horticultural projects in the Riverland region of the River Murray over the last 15 years have been chosen on landform studies (eg. Potter *et al.* 1973). The general topography has been used to identify the principal land systems and assess the likely surface drainage characteristics and frost hazard of the region. The geology of the region was studied to establish the subsurface drainage characteristics of the region as a whole.

The surface soil surveying has been by a simple grid probing and a minimum of boring to determine the depth and texture of soil above a marl or lime horizon. This survey has been interpreted in terms of the desirable minimum soil depth for citrus (60 cm of S and not heavier than SL to 120 cm) stonefruit (not heavier than SL to 120 cm) and vines (not less than 90 cm of SL).

The success and economic significance of the method of site selection outlined is illustrated in the poster section.

Potter, J.S., Wetherby, K.G., and Chittleborough, D.J. (1973). "*A Description of the Land in County Albert, County Alfred and Part of County Eyre, South Australia*". Dept. Agriculture, S.A. L.D. 1, 1973.