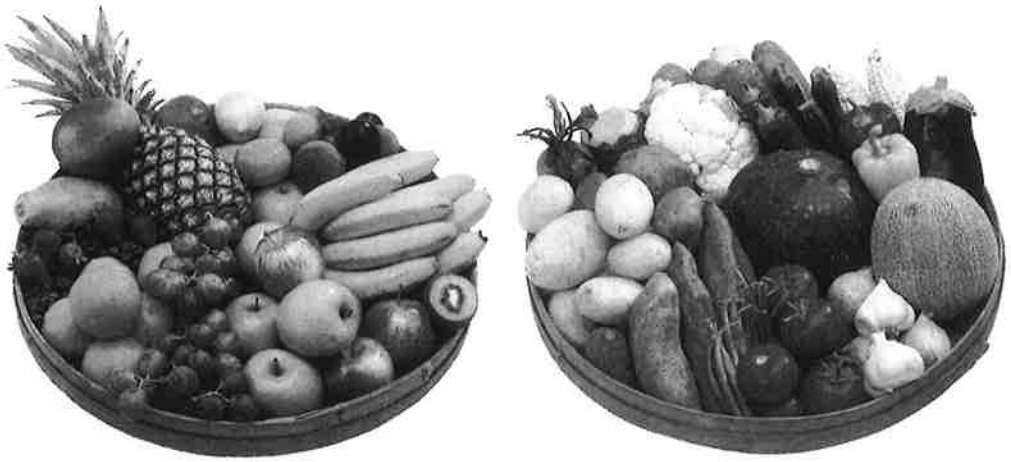

A diverse range of fruit (left) and vegetables (right) is available to consumers.
PHOTOS: NZ INSTITUTE FOR PLANT & FOOD RESEARCH LTD

Climate variability

The current focus on climate variability will give horticultural scientists the opportunity to develop new cultivars and innovative growing systems through research and development. Climate changes will place more emphasis on the development of knowledge systems and technology to monitor water, nutrient, pest and disease factors and so lower plant stresses. New cultivars will have to be developed that adapt to changing temperature conditions. The opportunity will be available to evaluate plant genetic material stored in gene banks and with future climate variability in mind, to seek new varieties from the wild.

It is therefore essential to collect the seeds of wild relatives of fruit, vegetable, root and tuber crops and ornamental plants before they disappear. Some invaluable collections do exist and it is increasingly possible that these collections could make a contribution to maintaining sustainable and viable production in the face of climate variability.

It is also possible that changes in climate will reduce food production in some zones where temperature and radiant energy levels change and lead to an increase in food production in other zones where viable production becomes possible.

Climate change impacts – grape wine production

A study in New Zealand considered the impacts that climate change might have on the growing of grapes for wine:

- Drier growing seasons – increased water demands
- Drier seasons – fewer fungicide sprays required
- Warmer growing seasons – earlier bud break and exposure to frost damage
- Warmer growing seasons – shift to new varieties
- Shorter vintages (the time between budbreak and harvest) and maybe lower yields
- Lower fruit acid concentration due to higher (night) temperatures
- Shift of production to growing areas that are currently marginal.