
Editorial: Postharvest technology for linking production to markets

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As a technical consultant to a World Bank project on horticultural export diversification in Sub-Saharan Africa more than a decade ago, I had the opportunity to travel to various parts of Mali in West Africa, training farmers and fresh produce exporters on basic postharvest techniques and procedures to enable them to participate in a trial shipment of fresh mangoes to Europe. In rural parts of Bamako, Segou and Sikasso, we visited several growers who were keen to capture the new and emerging European market, which offered them higher prices and prospects of better income and improved livelihood. Historically, these growers sold their produce to village women traders, who were usually responsible for postharvest operations. After one of the joint training and discussion sessions, we offered to purchase fruit from some of the mango growers. To ensure that we had sufficient quantity and quality of fruit for the refrigerated reefer container sea freight, we asked the growers several questions regarding their crop and business practices. It became evident that the majority of growers did not know the expected yield and current maturity status of their crop. Interestingly, most of them were also not able to offer a price for their produce during our discussion.

When we visited some of the mango orchards in Bamako over the next couple of days, we found that the fruit had been harvested, even though we had offered earlier during the focus group meetings to buy them. We later found out that in the past, these farmers sold their fruit to village women mango traders, who in turn arranged harvesting labour, brought their own woven baskets, selected the fruit they wanted in the orchard after harvest, paid a regular price, and carried their fruit away to the local market. We were disappointed that the farmers did not want to capitalise on the higher price we could offer them. However, during subsequent visits, the growers explained they knew that they could not provide adequate answers to our 'many' questions. Most importantly, they could not disappoint the women mango traders who have been their regular and dependable customers. Indeed one of the growers asked me: 'My son, will you come back next year, or will they send another consultant after 3 years as in the past?'

In another project in The Kingdom of Tonga, watermelon and vanilla growers showed me fields of crop that were left to waste, or even worse, vanilla that had been in storage for a couple of years because the overseas buyers had cancelled their orders. They had no binding contract and even if they did, as one of the grower remarked, 'We are too small to pursue them'. During one project visit to China in the late 1990s, many apple

growers in Yunchen District, Shaanxi Province, wanted to know which varieties to grow in order to be able to sell their produce to overseas buyers as the local (District) market was already oversupplied. In Tanzania, I noted that many pipfruit growers in Lushoto District in Tanga Region usually harvest their crop at immature stage to capture the early local (regional) market, while most pipfruit sold in emerging supermarkets in the capital city, Dar es Salam, were imported.

For many postharvest researchers and development practitioners in many developing and transitional countries, the above experiences with producers in Africa, Asia and the South Pacific may sound all too familiar. Irrespective of continent, region or crop type, these examples highlight one of the major problem facing producers in both developed and developing countries: access to markets – local, regional and global. To access and retain these markets, growers and marketers need access to appropriate postharvest technologies to assure the supply, quality and safety of their products. In addition to the need for basic infrastructure such as transportation, communication, warehouse facilities and appropriate technologies such as packaging and coldstores, growers and marketers need appropriate tools and skills to assess and monitor the maturity and yield of their crop. They need good understanding of the impact of their preharvest management practices on postharvest quality of produce. They need practical skills to negotiate effectively with their customers, individually or as a cooperative. They need adequate understanding of, and access to, simple postharvest tools to assess and monitor the quality of their produce after harvest. They need access to inform about local, regional and global market trends. They need to know their customers and their expectations and perceptions of product quality.

My experiences with producers and marketers in several countries have shown that even where buyers are available, many growers have not been able to ‘access the market’ because they are not yet able to meet the market demands for quality, consistency and reliability of supply. It is therefore important that while addressing the ‘hardware’ technologies (infrastructure) necessary for farmers to access market, there is an equally compelling argument to invest in the ‘soft’ technologies – training and equipping people with competency-based skills on appropriate postharvest techniques and procedures.

This second issue of *IJPTI* contains papers that address some of the technological problems and challenges facing the fresh produce industry. The search for objective and non-destructive measurement of product quality continues to attract the interest of both researchers and industry practitioners. The papers by Kusabs et al. on measuring mushroom quality, Tijskens et al. on time-resolved reflectance spectroscopy application in nectarines, firmness evaluation of melons using vibration characteristics by Nourain et al., and the use of Fourier-Transform Near-Infrared instruments to measure sugar content of pears also by Nourain et al. highlight some of the latest and ongoing advances on non-destructive measurement of product quality. The paper by Diza and Karaan on the competitiveness and market integration of small mussel growers in South Africa is our first case study paper under ‘*Industry Practice*’. Through their collaborative project with industry, the authors have identified important transaction costs faced by small mussel growers, who produce superior quality products but often lose this advantage over large-scale producers because of their limited ability to manage postharvest risks such as logistics, climate, storage, synchronisation of supply, investments in processing and the associated skills and management required. All the papers included in this issue been

selected after the formal peer review process and we are grateful to our reviewers for their comments and feedback. We welcome your comments and feedback on any of the articles published in the present and past issue *IJPTI*. We also invite you and your colleagues to consider sending your research articles for review and possible publication in *IJPTI*.