MEDIA RELEASE

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IMPORTANCE AND FUTURE DEVELOPMENT OF INDIGENOUS VEGETABLES

The triple burden of hunger, overconsumption and micronutrient deficiencies has sparked a global epidemic of non-communicable diseases including obesity, heart disease, and type 2 diabetes among different population groups, in particular those from the South and Central Pacific region. Consuming a balanced diet rich in fruit and vegetables is the first line of defense against these scourges. But *which* vegetables?

This is the question to be posed by Dr Dyno Keatinge, Director General of The World Vegetable Center (AVRDC), when speaking to over 3000 delegates from more than 100 countries who will attend the International Horticulture Congress (IHC2014) – the world premier horticulture event - in Brisbane from 17-22 August at the Brisbane Exhibition and Convention Centre.

The World Vegetable Centre is a non-profit agricultural research institute that works to alleviate poverty and malnutrition through the increased production and consumption of nutritious and health-promoting vegetables. The Centre's genebank maintains the world's largest public vegetable germplasm collection with more than 60,899 accessions from 156 countries, including about 12,000 accessions of indigenous vegetables.

"While tomatoes and cabbage certainly make a contribution to health, there are hundreds of less well-known vegetables packed with vitamins and minerals, such as moringa leaves, bitter melon, leafy nightshade and amaranth, to name just a few, that can add much-needed nutritional diversity to diets," said Dr Keatinge.

Rosella (*Hibiscus sabdariffa*), also known as the Queensland Jam Plant, is one indigenous vegetable Australians favour. The fleshy calyces or flower buds are used to make jams, jellies, chutneys and syrups for refreshing drinks. The plant has antioxidant properties and is a good source of vitamin C.

Dr Keatinge will introduce these and other lesser-known and unusual vegetables with the potential to improve human nutrition worldwide in a keynote presentation at the IHC2014 International Symposium on Indigenous Vegetables. The symposium aims to highlight the role of indigenous vegetables for nutritional security, and to make the case for greater investment in research and development for these underutilized species.

"We yet know little about suitable production, agronomy and post-harvest management for many of these useful species and quality seed availability remains an important constraint," said Dr Keatinge.

Indigenous or traditional vegetables are locally important crops that help sustain economies, human nutrition and health, but which have yet to attain the global recognition and research funding of commodities like tomato and cabbage. Consider kutjera, or Australian desert raisin (*Solanum centrale*), a plant native to the more arid parts of Australia. Like other "bush tomatoes" it has been used as a food source by Central Australian Aboriginal groups for millennia.

"Hundreds of these nutrient-dense indigenous vegetable species could enrich diets well beyond the areas where they typically are grown, if quality seed could be obtained and suitable agronomic and postharvest handling practices were applied," Keatinge said.

"For instance, slippery cabbage (aibika, bele)—a common vegetable grown in the South Pacific—has a very high level of folate and is thus of considerable importance in the diets of pregnant women, yet this germplasm is not yet preserved in genebanks and is essentially at risk of being lost regionally owing to lack of research investment."

More research into the growth habits, nutritional qualities, production methods and seed systems for indigenous vegetables would help to diversify agricultural production, which is increasingly reliant on just a few staple crops.

"Collecting indigenous and traditional species in genebanks and characterizing their traits for future breeding work can halt the erosion of genetic diversity as global vegetables become more prominent in diets worldwide," Keatinge said.

Keatinge, who has global expertise in crop agronomy and has worked at several international agricultural research centres, including the International Centre for Agricultural Research in the Dry Areas (Syria), the International Institute for Tropical Agriculture (Africa), and the International Crops Research Institute for the Semi-Arid Tropics (India), is Chair of the Association of International Research and Development Centres for Agriculture and of the Global Horticulture Initiative.

Also scheduled for symposium keynote speeches are
- **Dr Mary Taylor**, Taylor AgriConsult, Powys, UK, who will consider the constraints on access to and availability of indigenous vegetable seed and how these can be overcome;
- **Dr Stephen C. Weller**, Department of Horticulture and Landscape Architecture, Purdue University, USA, presenting information on research and outreach activities related to the value-chain for African indigenous vegetables in Eastern Africa, especially on production technologies;
- **Dr Suzie Newman**, New South Wales Department of Primary Industries, Central Coast Primary Industries Centre, Australia, who will explore ways to maximize the market potential of indigenous vegetables, particularly for smallholder farmers; and
- **Dr Bruce Cogill**, Nutrition and Marketing Diversity Programme, Bioversity International, Rome, Italy, sharing his view on linking local and indigenous vegetables to food and nutrition policy.

International plenary speakers at IHC2014 include:
- Em Prof Marc Van Montagu, World Food Prize Laureate (2013) and co-discoverer of the transformation technology used worldwide to produce genetically engineered plants.
- Dr Shenggen Fan, Director General of the leading food think-tank, International Food Policy Research Institute, who received the 2014 World Food Programme's Hunger Hero Award.
- Dr Dennis Gonsalves, former director of the USDA Pacific Basin Agricultural Research Center, who led the development of the virus-resistant transgenic papaya, saving the Hawaiian papaya industry.

In addition to presentations on particular fruits, vegetables, nuts and berries, more general issues include:
- The place of horticulture in world food production
- Human health effects of fruits, vegetables, nuts and berries
- Traditional and modern knowledge of medicinal and aromatic plants
- Functional & biofortified food and GMOs in horticulture
- Mechanisation, precision horticulture and robotics
- Connections between nature, plants, landscapes and human health