Improving pitaya production and marketing

OVER THE PAST TWO DECADES
pitaya or dragon fruit (Hylocerus spp. and Selenicerus spp.) has gained popularity among producers, exporters and consumers in Indonesia, Malaysia, Myanmar, Philippines, Taiwan, Thailand and Vietnam where agro-environmental conditions are conducive for growing this fruit plant. In Vietnam alone its cultivation area is reaching near 30,000 hectares with 640,000 tons of fruit products in 2013. Several factors are accountable for pitaya’s popularity: high net returns; high level of antioxidants; and emerging export potential to high value markets because of its uniqueness and health benefits.

But many factors limit pitaya’s potential productivity and downgrade fruit quality. Heavy rainfall and poor crop management practices such as over watering can cause flowers to drop, and fruit to split or rot. Prevailing poor production technologies also limit the pitaya crop to reach its yield potential especially with the serious occurrences of some pests and diseases. Currently anthracnose, stem canker, brown stem spots and fruit rot are prevalent in major pitaya growing areas in the Asian Pacific region.

FFTC, the Southern Fruit Research Institute (SOFRI) and the Taiwan Agricultural Research Institute (TARI) joined hands to organize the workshop in order to share the latest advances in understanding the constraints limiting pitaya production and marketing as well as newly developed doable technologies such as optimal spacing, trellising, disease diagnosis, integrated pest management, pruning, phenology manipulation, and GAP that increase pitaya productivity, safety and marketability. The speakers and participants also visited several pitaya farms in the southern part of Taiwan and interacted with farm owners regarding their best production and marketing practices.

Major findings/ recommendations

- Consider tissue culture for pitaya in the transfer and exchange of plant materials;
- Run taste tests of pitaya fruit and make this an SOP in research work to find out more about consumers’ tastes and preferences;
- Involve stakeholders in the formation of a pitaya network and make sure they are well-informed about the latest in dragon fruit research;

Twenty speakers from 10 countries, including 40 local observers and eight other delegates, comprise the participants of the international workshop on “Improving pitaya production and marketing.” Photo shows the whole team in Ru-Yuan fresh fruit orchard in Wandang Township, Pingtung County. The orchard produces red-flesh pitaya grown in neatly arranged trellises.

Dragon fruit is now referred as the latest rising star in the horticultural world because of its various health benefits.
• Develop strategies to strengthen R&D funding support and the promotion of pitaya in the international market;
• Compile best practices in pitaya production and marketing and disseminate this using the internet and other forms of social media;
• Develop capacity building modules on pitaya canopy management, handling of pests and diseases, pruning, grafting and breeding techniques;
• Conduct further studies on economic losses in pitaya production and marketing as well as the linkages between and among farmers and other participants in the whole dragon fruit marketing chain; and
• Standardize SOPs for handling pests and diseases and conducting consumer surveys

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Type: Database and network
Date and venue: Fengshan, Kaoshiung, Taiwan, 7-9 September, 2015
No. of participating countries: 11 (Israel, Indonesia, Japan, Malaysia, Myanmar, Philippines, Thailand, Taiwan, USA, Vietnam, New Zealand)
No. of papers presented: 20 speakers and 40 local observers
Co-sponsors: Southern Horticultural Research Institute (SOFRI)
Taiwan Agricultural Research Institute (TARI)

List of papers

Keynote
1. Thirty-one years of research and development in the vine cacti pitaya cultivation in Israel
   - Yosef Mizrahi

Resource papers and country reports
2. Status of dragon fruit cultivation and marketing in Indonesia
   - Irwan Muas

Professor Yosef Mizrahi of the Department of Life Sciences, Ben-Gurion University, University of the Negev Beer Sheva, Israel is the keynote speaker in the workshop. He delivered a lecture entitled “Thirty-One Years of Research and Development in the Vine Cacti Pitaya in Israel” and cheerfully shared his experiences and learnings in the production and marketing of dragon fruit.

Pitaya farm orchard owners, most of whom are located in the southern part of Taiwan, individually wrap the mature dragon fruit with plastic or nylon nets to protect the fruits from insects and pests. The owners of the fruit orchard admit that the bags add up to their production expense but in the end, it is still cost efficient.
3. Status of dragon fruit production in Malaysia
   - M. Zainudin

4. Pitaya production and marketing scenario in Myanmar: current status and challenges
   - Zaw Htun Myint

5. Dragon fruit production and marketing in the Philippines: its status, constraints and prospects
   - Leonardo Pascua

6. Pitaya breeding strategies for improving commercial potential in Taiwan
   - Pi Chuan Lu

7. Development of integrated crop management systems for pitaya in Taiwan
   - Yi-Lu Jiang

8. Pitaya reproductive phenology in relation to production system
   - Yi-Lu Jiang

9. Fungal diseases of pitaya in Malaysia
   - Masratul Hawa Mohd

10. Diseases of dragon fruit in Thailand: incidence and management
    - Pomphimon Athispunyakom

11. Pathogen identification and management of pitaya canker and soft rot in Taiwan
    - Chu-Ping Lin

12. Viral diseases of pitaya and other cactaceae plants
    - Yong-Shi Li

13. Management strategies of major pitaya diseases in Vietnam
    - Nguyen Thanh Hieu

14. Study of insect pests and development of their control measures on dragon fruit
    - Le Quoc Dien

15. Development and implementation of GAP on pitaya in Vietnam: status and challenges
    - Nguyen Van Hoa

16. Value chain initiatives for dragon fruit (pitaya) market development
    - John Malcolm Campbell

17. Off-season flowering treatment by lighting red pulp dragon fruit in Gia Lam district, Hanoi, Vietnam
    - Nguyen Quoc Hung

18. Production potential of pitaya in the U.S. Virgin Islands
    - Thomas Zimmerman

19. Dragon fruit: the new money crop in the coastal areas of northwestern Cagayan
    - Marilou Agaid

20. Sustaining and improving pitaya production in abiotic stress environments: a case study in Penghu, Taiwan
    - Yu-Chun Chu

21. Taiwan’s new growers group expands and promotes pitaya
    - Yu-Hsien Lin

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