

Current Status of Dragon Fruit Diseases in Sangola Tehsil

Dr. Mrs. Seema Gaikwad¹, Dr. Rajendra Suryavanshi², Mahesh Aasbe³

Department of Botany^{1,2}

Vidnyan Mahavidyalaya, Sangola, Maharashtra, India^{1,2}

PAH Solapur University, Solapur, Maharashtra, India

Rukmini Dragon Fruit Farm, Akola, Maharashtra, India³

seemgaik@gmail.com, rss0987@gmail.com

Abstract: Dragon fruit (*Hylocereus sp.*) is a tropical fruit with a unique appearance, crunchy texture and sweet taste. It has become increasingly popular across the Sangola Tehsil as an alternative crop to pomegranate due to its claimed health benefits and commercial value. It is rich in antioxidants like Betalains, Hydroxycinnamates, Flavonoids which may reduce issues from heart problems to cancer. Four varieties are widely planted such as white, red-flesh, Jumbo red and yellow varieties. Dragon fruit production area is about 75 acres. Now a day, dragon fruit growers facing significant challenges due to different diseases and insect pests which impacts on fruit yield production and profitability. This paper provides a comprehensive review of dragon fruit diseases in the study area and their current management options. Correct identification of the causal pathogen is a prerequisite for and effective disease management strategies. We conclude that insect pest attacks, sunburns and fungal reported diseases of dragon fruit and actions are needed to address the growing problems associated with these diseases as no disease management strategies for Dragon fruit diseases has been studied, published and yet to be identified..

Keywords: Dragon Fruit, Fungal diseases, disease management, antioxidants, Flavonoids

REFERENCES

- [1]. Ali et al. Effectiveness of submicron chitosan dispersions in controlling anthracnose and maintaining quality of dragon fruit Postharvest Biol. Technol. (2013).
- [2]. Nerd et al. Ripening and postharvest behaviour of fruits of two *Hylocereus* species (Cactaceae).
- [3]. Abirammi *et al.* Occurrence of Anthracnose Disease Caused by *Colletotrichum siamense* on Dragon Fruit (*Hylocereus undatus*) in Andaman Islands, India (2018).
- [4]. Ben-Ze'ev et al. First report of *Bipolaris cactivora* causing fruit blotch and stem rot of dragon fruit (pitaya) in Israel *Phytoparasitica* (2011).
- [5]. Crop Protect. (2007).
- [6]. F. Buxb. Cactaceae System Initiatives (2003).
- [7]. F.C. Stintzing et al. Structural investigations on betacyanin pigments by LC NMR and 2D NMR spectroscopy *Phytochemistry* (2004).
- [8]. Fabrice LE BELLECa*, Fabrice VAILLANTb, Eric IMBERTc Pitahaya (*Hylocereus* spp.): a new fruit crop, a market with a future (2006).
- [9]. Food Chem. (2010).
- [10]. G.C. Tenore et al. Nutraceutical potential and antioxidant benefits of red pitaya (*Hylocereus polyrhizus*) extracts *J. Funct. Foods*. (2012).
- [11]. H.W. Choi et al. The effect of spent mushroom sawdust compost mixes, calcium cyanamide and solarization on basal stem rot of the cactus *Hylocereus trigonus* caused by *Fusarium oxysporum*.
- [12]. J.C. Castro et al. Bioactivity of essential oils in the control of *Alternaria alternata* in dragon fruit (*Hylocereus undatus* Haw.) *Ind. Crops Prod.* (2017).
- [13]. J.C. Castro et al. Mycotoxigenic potential of *Alternaria alternata* isolated from dragon fruit (*Hylocereus undatus* Haw.) using UHPLC-Qtof-MS *Postharvest Biol. Technol.* (2018).

- [14]. K. Abirammi et al. Occurrence of anthracnose disease caused by *Colletotrichum siamense* on dragon fruit (*Hylocereus undatus*) in Andaman Islands, India Plant Dis. (2019).
- [15]. LWT-Food Science and Technology (2017).
- [16]. N. Zahid et al.: Inhibition in production of cellulolytic and pectinolytic enzymes of *Colletotrichum gloeosporioides* isolated from dragon fruit plants in response to submicron chitosan dispersions.
- [17]. P. Cannon et al. *Colletotrichum* – current status and future directions Stud. Mycol. (2012).
- [18]. Postharvest Biol. Technol. (1999).
- [19]. R. Bauer A synopsis of the tribe *Hylocereeae*.
- [20]. R. Vilaplana et al.: Sodium bicarbonate salts for the control of postharvest black rot disease in yellow pitahaya (*Selenicereus megalanthus*) Crop Protect. (2018).
- [21]. R. Vilaplana et al. Control of black rot caused by *Alternaria alternata* in yellow pitahaya (*Selenicereus megalanthus*) through hot water dips.
- [22]. S. Wichienchot et al. Oligosaccharides of pitaya (dragon fruit) flesh and their prebiotic properties.
- [23]. S. Wybraniec et al.: Betacyanins from vine cactus *Hylocereus polyrhizus* Photochemistry (2001).
- [24]. S. Wybraniec et al.: Minor betalains in fruits of *Hylocereus* species Phytochemistry (2007).
- [25]. Sci. Hortic. (2019).
- [26]. Varela et al., 1995; Bibliowicz and Hernandez, *Bipolaris cactivora* causing fruit rot of dragon fruit imported from Vietnam (1998).
- [27]. W. Barthlott et al. *Cactaceae*.
- [28]. Y. Awang et al. Effect of calcium chloride on anthracnose disease and postharvest quality of red-flesh dragon fruit (*Hylocereus polyrhizus*) Afr. J. Microbiol. Res. (2012).
- [29]. Y. Awang et al. Effects of *Colletotrichum gloeosporioides* and *Monilinia fruticola* on quality of red flesh dragon fruit (*Hylocereus polyrhizus*).
- [30]. Y.B. Awang et al. Effect of postharvest application of calcium chloride on brown rot and quality of red-flesh dragon fruit (*Hylocereus polyrhizus*).
- [31]. Y.N.H. Aifaa et al. Effect of *Cymbopogon nardus* on incidence of anthracnose disease and postharvest quality of dragon fruit during storage.