



Dragon fruit industry development in the Northern Territory

Background

Pitaya, commonly known as dragon fruit, is a climbing cactus that produces edible fruit. In Australia, it is primarily cultivated in Queensland, northern New South Wales, Western Australia, and the Northern Territory. In 2017, the federal government approved the importation of fresh pitaya, sparking concerns among local growers about the economic impact of cheaper imports and the risk of introducing exotic diseases.

By 2020, domestic dragon fruit prices ranged from \$7 to \$15 per kilogram (AusMarket). The AgriFutures report, *New Opportunities in New and Emerging Agricultural Industries in Australia*, highlights dragon fruit as a crop with strong growth potential due to its striking appearance and recognition as a “superfood.” However, challenges persist, including the need for improved genetics, particularly for sweeter varieties. Additionally, the Australian Emerging Tropical Fruits Strategic RD&E Plan identified a lack of localized agronomic information as a major obstacle to industry development.



Summary

This project will establish a range of 32 dragon fruit varieties at Coastal Plains Research Farm in order to identify suitable varieties for commercial production in the Northern Territory conditions.

Plants will be assessed on their potential for commercial production in terms of time to maturity, yield, fruit appearance, and quality (sweetness, acidity etc.).

This planting will also provide the basis for research and extension into the agronomy of dragon fruit in the NT, addressing two of the critical gaps for this industry.

Objectives

1. Source and establish pitaya variety trial.
2. Assess growth and yield of different varieties.
3. Assess fruit quality for the purpose of commercial production.
4. Engage with local industry to extend information on agronomy.



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Trial design

The trial consists of 35 different dragon fruit varieties planted in a randomized orientation. Varieties were selected based on industry demand for the following;

- large size,
- high-sugar content
- resistance to sunburn,
- disease tolerance and
- ability to self-pollinate.

The plants are grown on trellises made from concrete-filled aluminium posts within a netted enclosure to minimize bird damage.

Preliminary results

Several varieties have shown promising early growth, flowering, and fruit production:

- **Thi** – Flower and fruit set observed at 12 months, produces extra-large, semi-sweet fruit. Longan/lemonade flavours.
- **Not Red Curly** –Highly productive, first variety in trial to flower and set fruit. Produces medium to large round fruit with firm red flesh and excellent flavour resembling red grapes.
- **Sweet Vietnamese** – Fast growing, flowered within 12 months of establishment and held fruit. Produces large fruit (approx. 600g) with firm flesh and moderate sweetness.
- **Sugar Dragon** – Exhibits medium to high growth, early flowering and fruit set. Fruit have a good balance between acidity and sweetness.

Conclusion

The trial is still in its early stages, with many varieties yet to reach full production. Ongoing assessments aim to comprehensively compare varietal performance. This study will help identify high-performing varieties best suited to the Top End conditions.

Varieties

Variety	Skin colour	Flesh colour	Reported Brix
American Beauty	Pink/yellow	magenta	18
Black Dragon	Dark purple/black	Dark purple/black	20
Blush	Red	Pink	18
Columbian Supreme Red	Red	Red	15
Condor	magenta	magenta	19
Delight	Pink	light pink	19
Dwarf Orange	Orange	Pink/purple	19
F1	Red	White	18
Frankies Red	Orange	Red	21
Giant Orange	Orange	Pink/purple	21
Golden Dragon	Yellow	white	17
Honey White	Red	Purple	16
Isis Gold	Yellow	White	20
Lemonade	Red	White	17
Lucille Lemonade	Pink	Pink	17
Makisupa	Red/Magenta	Red/purple	15
Maria Rosa	Red	white	18
Neon	magenta	magenta	17
Not Red Curly	Orange/pink	magenta	16
Pearl White	Pink	white	16
Physical Graffiti	Red	magenta	18
Pink Diamond	Orange/pink	Pink	17
Pink Panther	Orange/yellow	Pink	19
Purple Haze	Magenta/Purple	Purple	19
Scotts Purple	Pink	Red	19
Sin Espinas	Red	Red	17
Sugar Dragon	Green	Red/purple	18
Sweet Vietnamese	Pink	white	15
Thi	Pink	white	14
Trish Commercial Red	Red	Red	18
Voodoo Child	Red	Red	18
White Sapphire	Pink	White-pink hues	17

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