Future Orchards

Quality & Yield Interactions of Royal Gala and Pink Lady in Qld's Drought

10 June 2020

Prepared by Stephen Tancred, Orchard Services

Hort Innovation Strategic levy investment | APPLE AND PEAR FUND | AGFIRST | ORCHARD SERVICES | APAL Support for growth

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- At harvest; fruit size and quality data collected. Drought induced stem-cracking was the major blemish.

The growing Season

	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Average	48	39	42	41	41	73	78	97	97	82	70	43	751 mm
2019-20	12	33	5	14	1	43	6	64	104	152	12	29	475 mm
Reduction (mm)	-36	-6	-37	-27	-40	-30	-72	-33	+7	+70	-58	-14	- 276 mm

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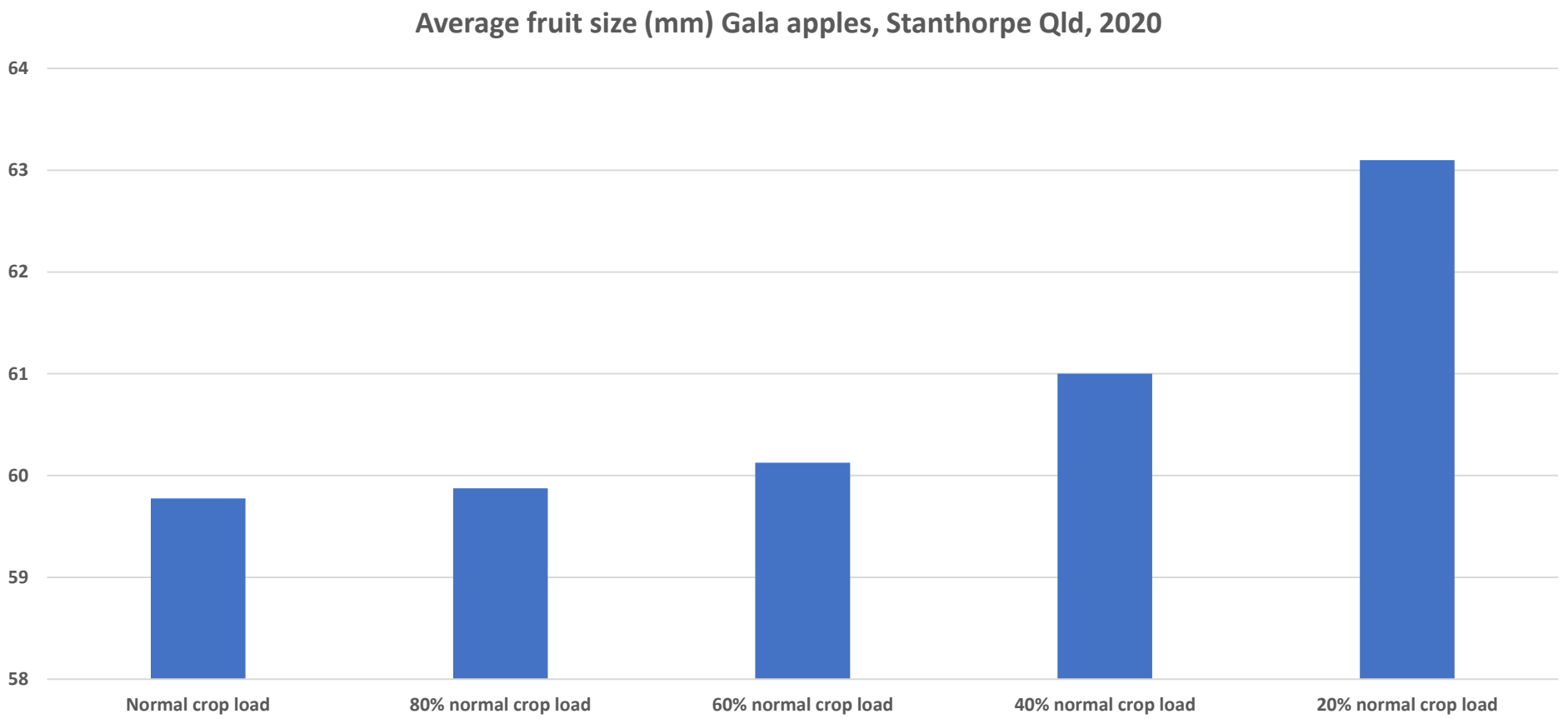
Rain
Mid-Jan
Mid-Feb

Quality Issues

Main issue was drought-induced stem cracking

Royal Gala Size and Quality



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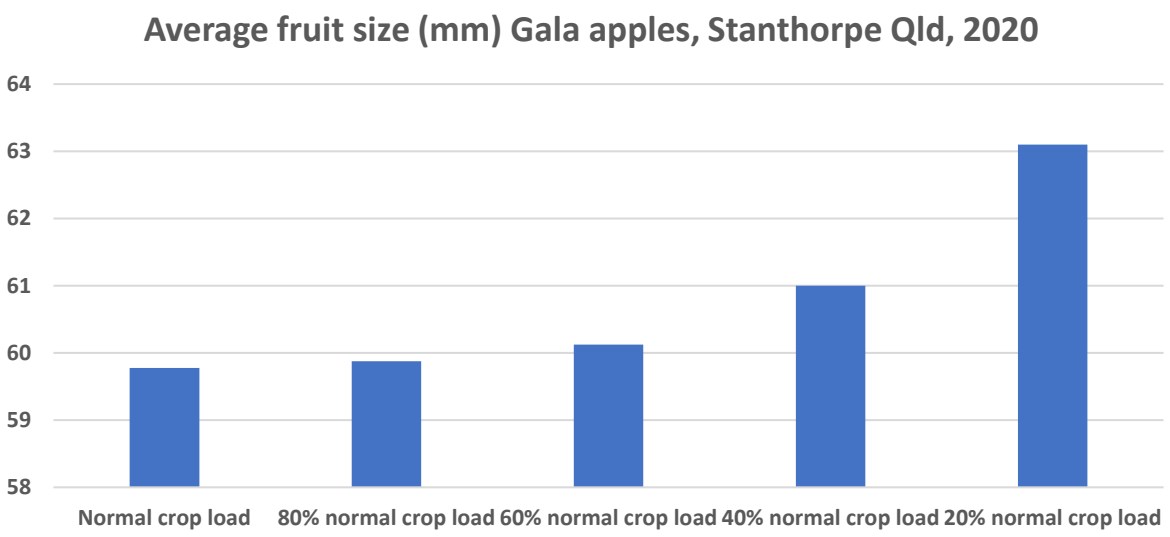

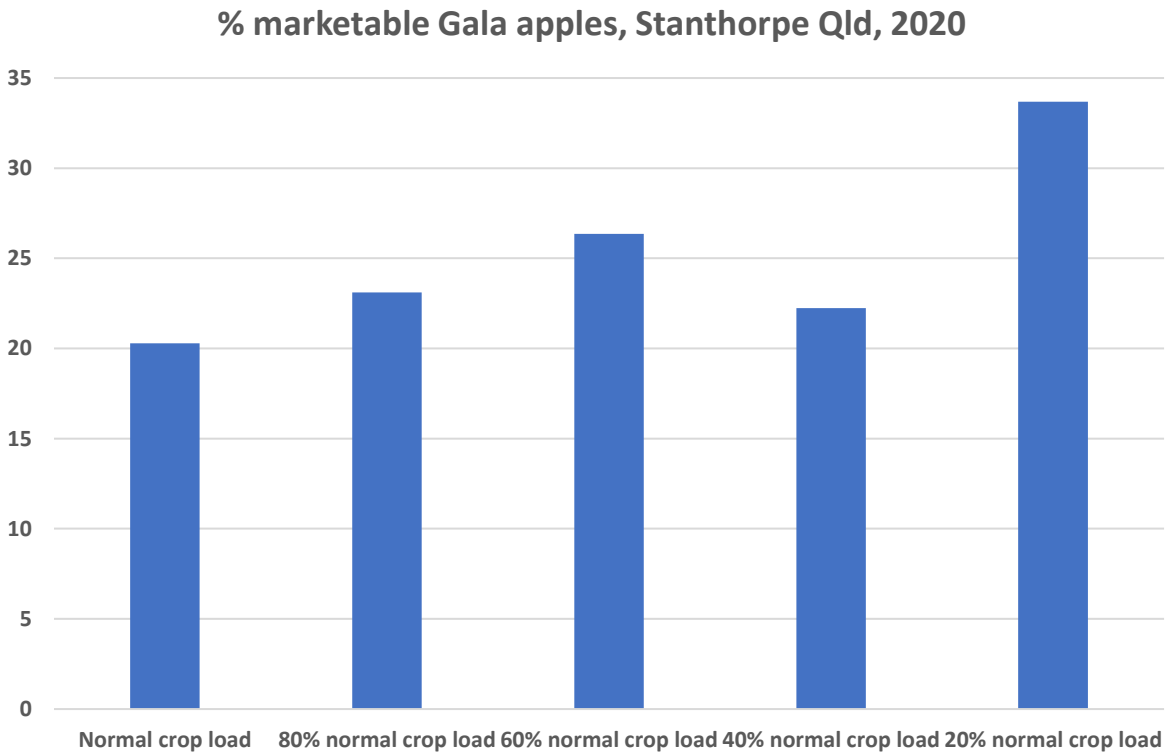

Royal Gala Conclusion

1. Smaller crop loads reduced yield in a predictable way and increased fruit size.
2. Very high percentage of Galas had some degree of stem-end cracking.
3. Good rain in Jan-Feb was a few weeks before harvest and may have worsened cracking.
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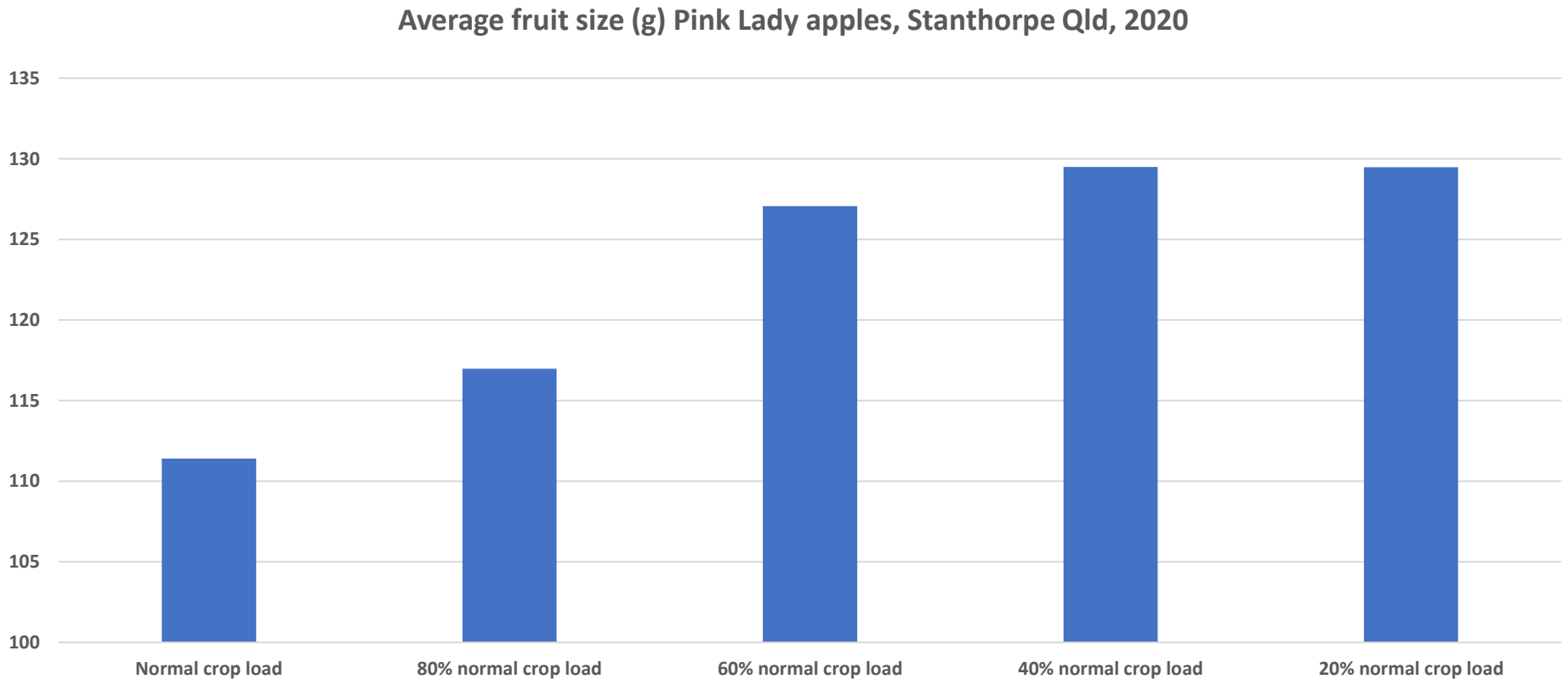
6. In similar circumstances the thinning decision may be to not thin drastically and hope for improved fruit size and quality to compensate for lost yield. But to do complete crop removal in some blocks so as to have extra water for other blocks.
7. Could be that Gala is very prone to size reduction in drought as it's naturally medium sized. Also, Gala's often have stem-end russet every season and droughts cause this to crack as final growth occurs. Made worse by heavy rain just before harvest?

Pink Lady Yield



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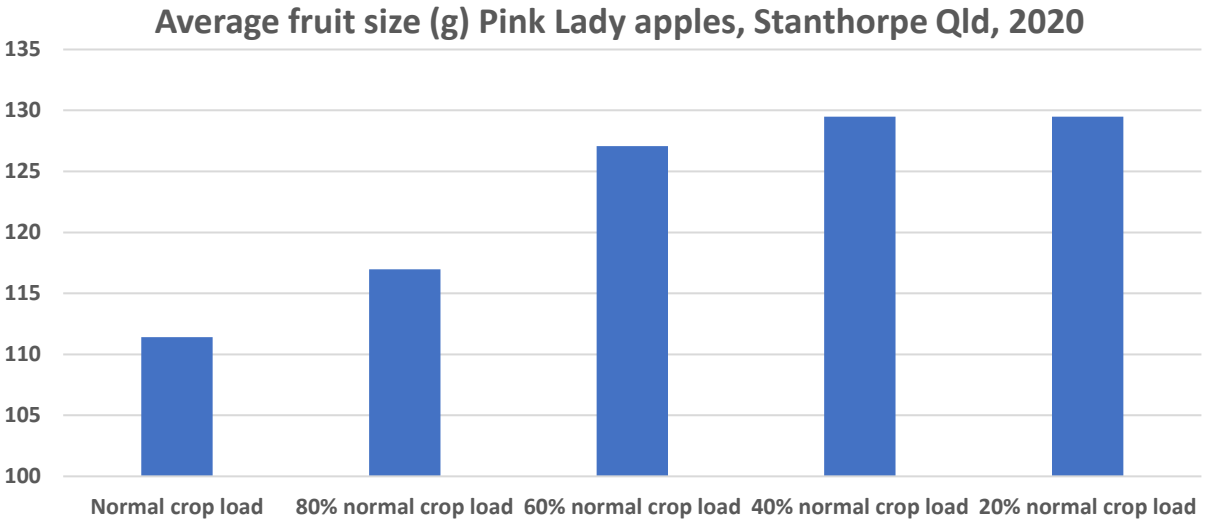

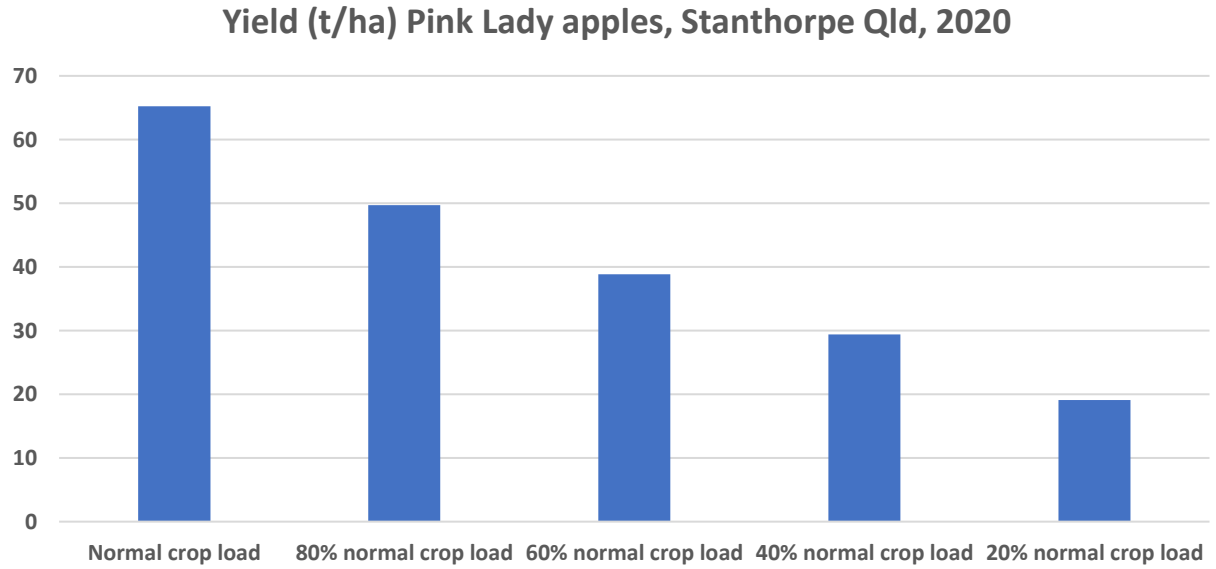

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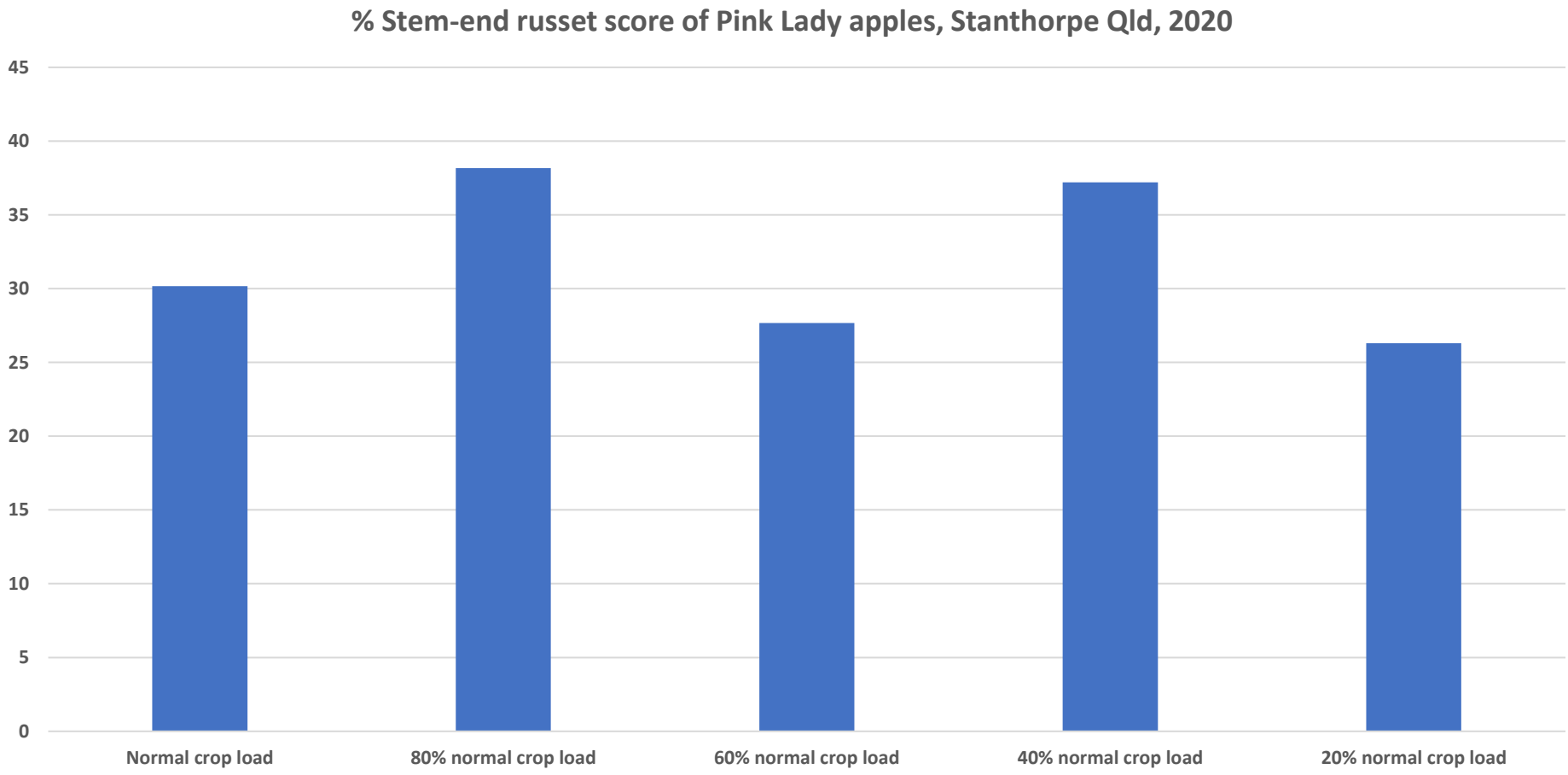

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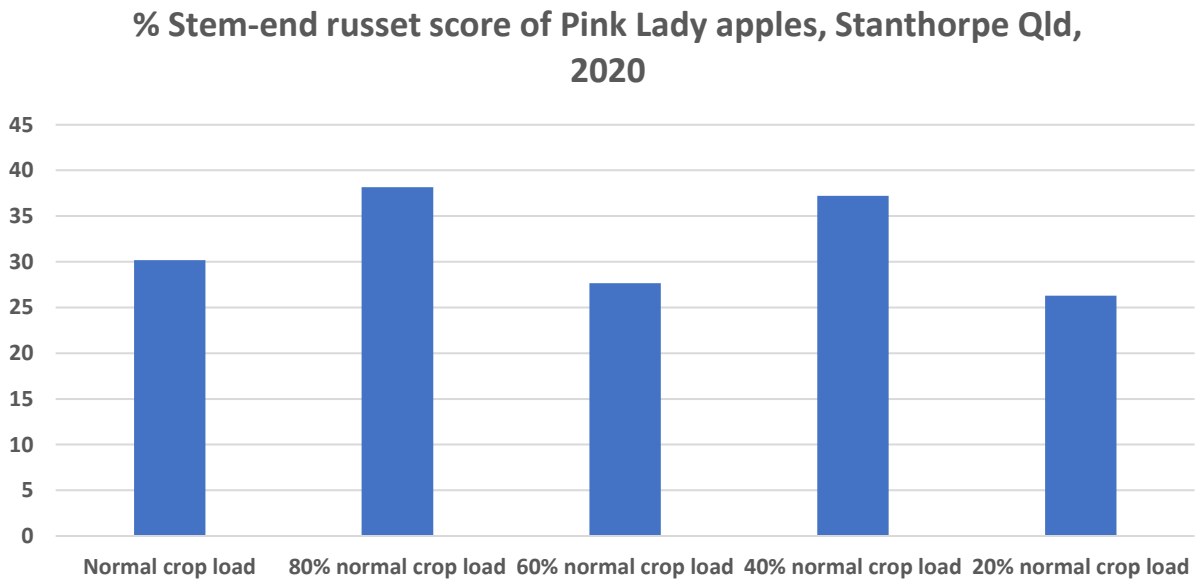

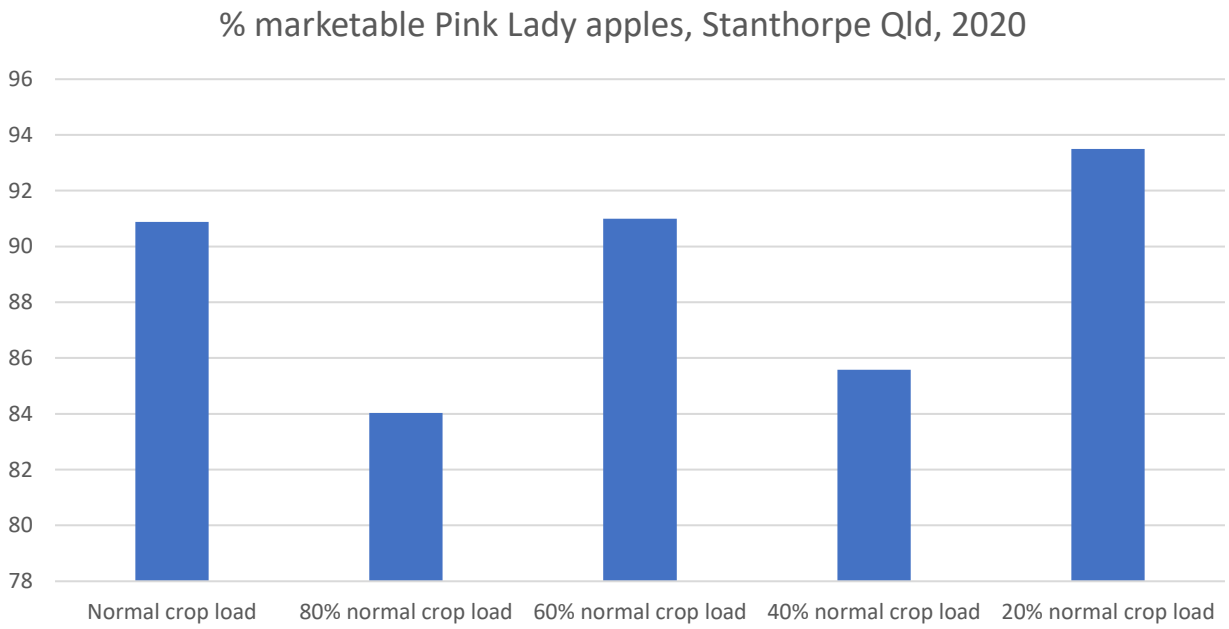

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1. No clear trend for lighter crop trees to have less stem end russet or more marketable fruit.
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6. Perhaps Pink Lady, bred in a hot, dry summer climate is adapted to growing a lot of its season in drought without quality issues?
7. Perhaps best drought strategy for Pink Lady is to reduce target yields to match expected canopy that can be sustained thru the drought (i.e. the grower’s adjusted ‘normal’ crop load) and not to over-thin and hope reduced loads would have less drought quality issues.

APAL

Support
for growth

Thank-you