

Australian Processing Tomato Research Council trial of CataPult and NitroGuard DEFENDER Rochester, Victoria, 2017-18

SUMMARY

1. APTRC researchers conducted a trial of two products on Geltch and Hansen farms. The trials had three treatments randomised along the rows. Six reps of 30m length, middle 20m harvested, buffer rows included, only four reps analysed due to waterlogging damage. Tomato cvs were H3402 Mix (H3402:H2401 60:40).
2. No statistical differences were found due to high variability associated with waterlogging and other factors
3. A strong consistent trend to increased yield from both products at both sites
4. Net returns/ha increased by \$375 and \$366 per ha on one farm and \$311 and \$869 per ha on the second farm site

TREATMENTS

T1 = Control. Growers standard nutrition program. T2 = Control + CataPult at transplant. T3 = Control plus CataPult and NitroGuard DEFENDER at planting plus 2nd NitroGuard DEFENDER at 41 days (Geltch) and 68 days (Hansen) after planting. Application by hand to mimic standard application via fertigation. Harvest at 121 days (Geltch) and 141 days (Hansen).

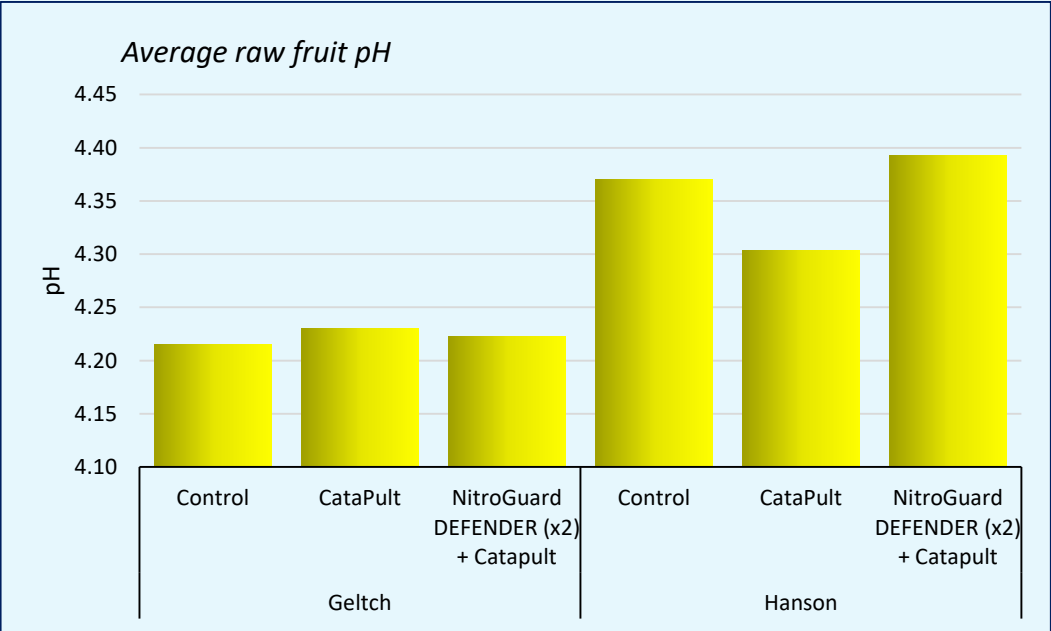
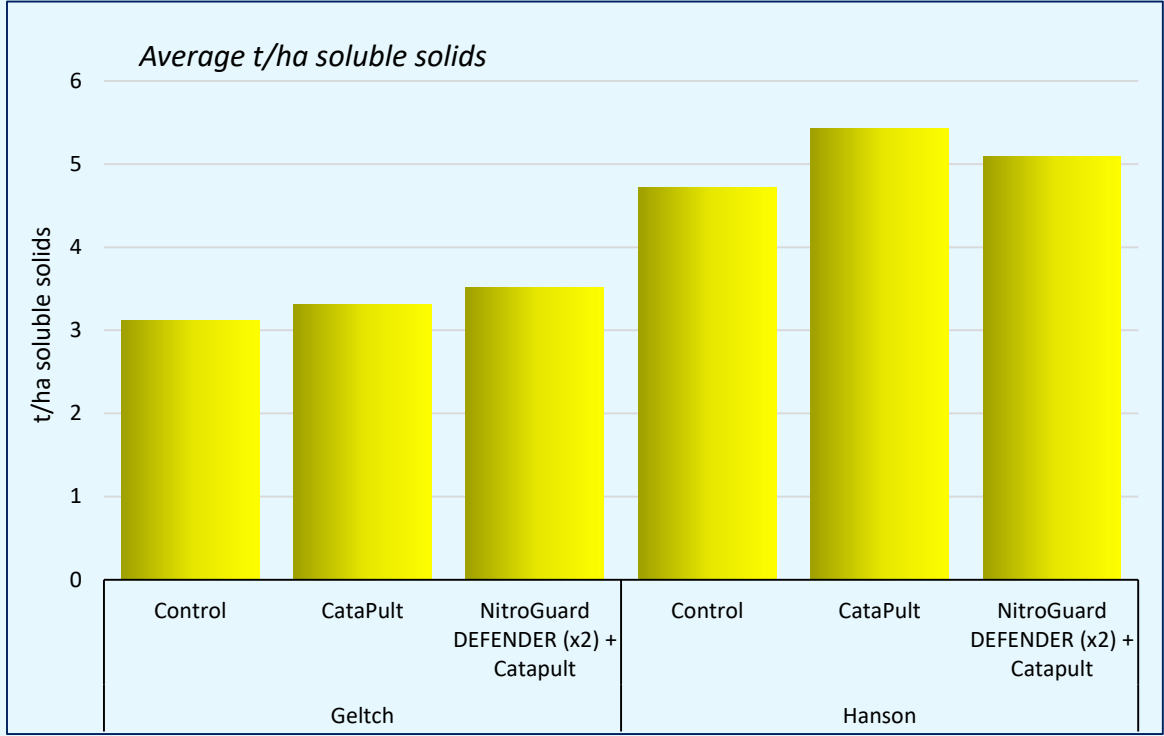
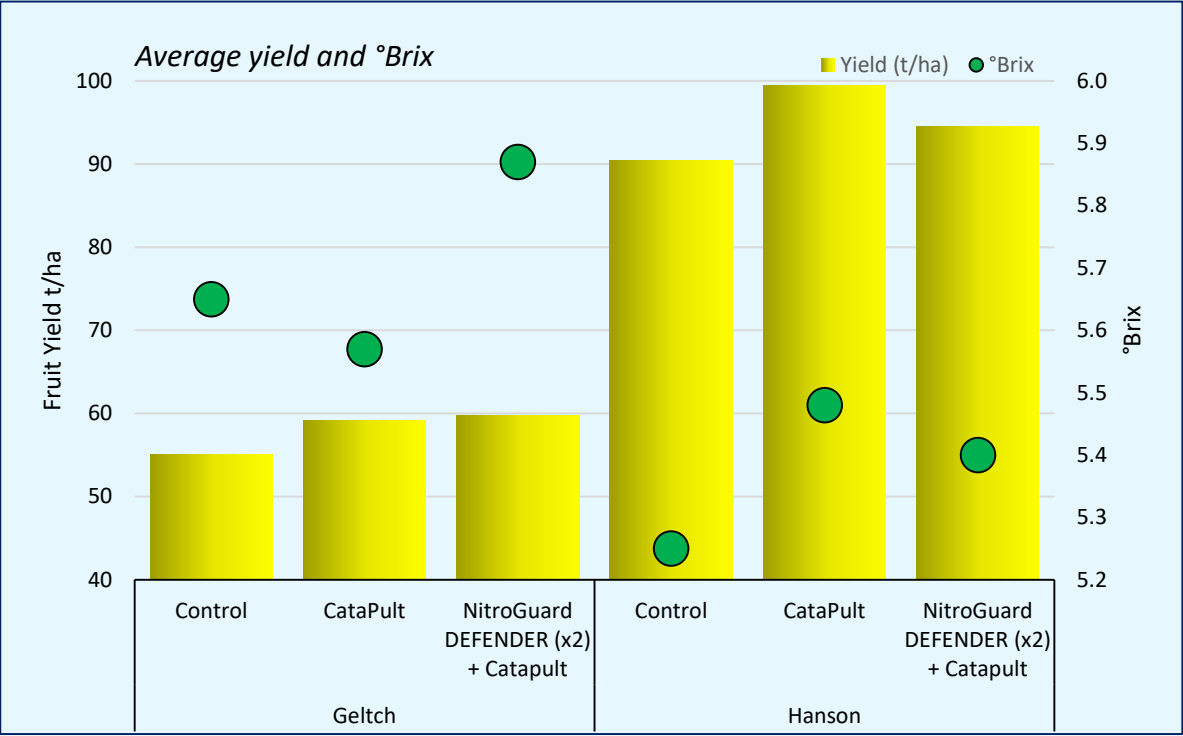


CataPult SuperFine was supplied by Mapleton Agri Biotec PTY LTD. It contains three species of mycorrhizae (VAM) plus species of Bacillus microbes. It is applied once at transplant or soon after.



NitroGuard DEFENDER was supplied by Mapleton Agri Biotec PTY LTD. It consists of freeze dried nitrogen fixing microbes plus very high rates of Bacillus microbes. It is applied at transplant and again later in the crop cycle.

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	Yield increase %		Increased Gross returns/ha ¹		Increased Net returns/ha ²	
	Site 1	Site 2	Site 1	Site 2	Site 1	Site 2
Control	0	0	0	0	0	0
CataPult	7.5	10	\$411	\$905	\$375	\$869
NitroGuard DEFENDER + Catapult	8.5	4.5	\$466	\$411	\$366	\$311

- 1 Assumes grower return of \$100/T
- 2 Net return is Gross return minus cost of products

Reduced nitrogen tomato trial – Camarillo, California 2017

Independent trial by Holden Research and Consulting. Trial design was Randomised Complete Block, 4 reps. Cv was Dri-319. The trial tested the capacity of TwinN to enable high yields with reduced rates of nitrogen fertiliser. Trial product was TwinN – an early version of NitroGuard and NitroGuard DEFENDER.

TREATMENTS

T1 Control Standard Grower Program 150lb N/acre (170 kgN/ha) in four applications

T2 Reduced Nitrogen at 100lbN/acre (113 kgN/ha) plus TwinN at 10 and 45 days after transplant.

RESULTS

1. No significant differences in yield
2. Control yield = 47 tons/acre (104.5 T/ha) versus TwinN plots 51.1 tons/acre (110.4 T/ha)
3. No significant differences in height, vigor, SPAD or end of season leaf analysis results (slightly elevated nitrate levels in TwinN treated plots)

SUMMARY

The California trial results show that the TwinN treatment enabled a 33% reduction in N fertiliser rate with no loss of yield in processing tomatoes.