



Rootstocks for blush pears

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Aim: To investigate the effects of currently available rootstocks on growth, yield and quality of new red-blushed pear cultivars.

Treatments:

Cultivar	Rootstock
<ul style="list-style-type: none"> • ANP-0118 (marketed as Lanya[®]) • ANP-0131 (marketed as Deliza[®]) • ANP-0534 	<ul style="list-style-type: none"> • D6 • D6 with Nijisseiki interstem • D6 with virus • D6 with BM2000 interstem • BP1 • Quince A with Beurre Hardy interstem • Quince C with Beurre Hardy interstem

- Planted July 2013
- 1 m x 4.5 m spacing (2222 trees per hectare)
- 4 leader training system on Open Tatura trellis
- Drip irrigated, fertigated
- Randomised complete block design with 4 reps
- 9 trees per plot with 4 guard trees
- Corella and Packham pollinators in each plot



Yield and Fruit Weight (2015/16 – third leaf)

- Overall, all three cultivars had the lowest yield when grafted to BP1.
- Yield of ANP-0118 and ANP-0131 was higher when grafted to Quince A and Quince C.
- Yield of ANP-0534 was similar when grafted to D6 (\pm Nijisseiki), Quince A and Quince C.
- Fruit weight of each cultivar was similar between rootstocks apart from ANP-0118 on D6 where it was higher.
- Fruit weight of ANP-0131 appeared to be reduced when grafted to Quince A, most likely due to the high crop load.

Rootstock	Yield (t/ha)			Fruit weight (g)		
	ANP-0118	ANP-0131	ANP-0534	ANP-0118	ANP-0131	ANP-0534
D6	0.7	14.8	12.1	180	211	153
D6/Nij	0.6	15.5	11.1	157	203	164
BP1	0.6	9.9	4.6	154	227	160
QA/BH	5.2	24.8	11.4	144	188	151
QC/BH	3.0	17.7	12.4	153	203	159
<i>Fprob</i>	<i>0.003</i>	<i><0.001</i>	<i>NS</i>	<i>0.004</i>	<i>0.036</i>	<i>NS</i>



Flower cluster number (Spring 2015)

- Cultivar ANP-0118 and ANP-0131 flower cluster and fruit number were both higher when grafted to Quince A and to a lesser degree, Quince C.
- ANP-0131 and ANP-0534 flower cluster and fruit number were lowest when grafted to BP1.

Rootstock	Cluster number per tree			Fruit number per tree		
	ANP-0118	ANP-0131	ANP-0534	ANP-0118	ANP-0131	ANP-0534
D6	1	72	36	2	32	36
D6/Nij	2	73	24	2	35	31
BP1	4	53	19	2	20	13
QA/BH	29	142	29	17	60	33
QC/BH	9	94	45	9	40	35
<i>Fprob</i>				0.004	<0.001	NS

Vegetative growth (Autumn 2016)

- Cultivar ANP-0118 tended to have the lowest leader growth at the end of the third-leaf when grafted to BP1.
- ANP-0131 and ANP-0534 tended to have the lowest leader growth when grafted to BP1, Quince A and Quince C.
- Leader diameter at the end of the third leaf was similar across all treatments apart from ANP-0131 grafted to D6, which had the highest leader diameter and leader height.

Rootstock	Leader height (m)			Leader diameter (mm)		
	ANP-0118	ANP-0131	ANP-0534	ANP-0118	ANP-0131	ANP-0534
D6	1.97	2.49	2.31	19	30	24
D6/Nij	2.13	2.46	2.22	23	27	25
BP1	1.91	2.33	2.15	23	26	23
QA/BH	2.04	2.23	2.09	22	25	24
QC/BH	2.16	2.31	1.94	25	26	22
<i>Fprob</i>	<0.001	<0.001	0.002	<0.001	0.005	NS

Key Messages

- Third leaf flower cluster number, fruit number and yield of cultivars ANP-0118 and ANP-0131 were highest when grafted to Quince A and to a lesser extent, Quince C rootstocks.
- Leader height at the end of the third leaf for cultivars ANP-0131 and ANP-0534 tended to be less when grafted to BP1, Quince A and Quince C rootstocks.
- There was no effect of rootstocks on fruit colour, firmness, sweetness and maturity for each of the cultivars.

