

Performance summary

GF557 produced trees that were similar to Nemaguard in terms of canopy size, seasonal yields and cumulative yield. Root knot nematode was detected in soils at low levels and will require monitoring to determine any yield impacts given GF557 is susceptible to root-knot nematode. GF557 had low levels of leaf sodium suggesting it has good salt tolerance. GF557 brought forward the start of flowering by one day and shortened the flowering period to 24.75 days compared to Nemaguard (26 days).

Key observations

Tree Habit

Using trunk circumference as an indicator of tree growth, Nonpareil trees grown on GF557 (564.6mm) were similar in size as Nemaguard (549.8mm) and spare Nemaguard (556.3mm).

By 2020, trees grown on GF557 (4.88m) were significantly higher than Nemaguard (4.65m) but not significantly higher than spare Nemaguard (4.83m). Canopy growth was evenly distributed in the upper and lower canopy without apically dominant limbs (Figure 58).

Production

GF557 had similar average annual yield and cumulative yield as Nemaguard (Table 22).

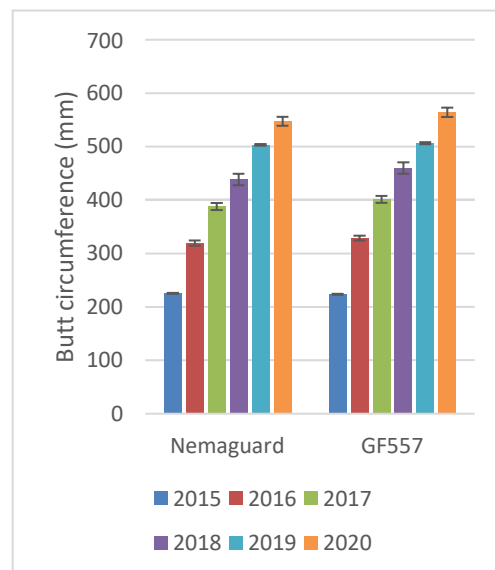


Figure 55. Average trunk circumference.

Table 22. Average annual yields (kg/ha).

Rootstock	2016	2017	2018	2019	2020	2021	Cumulative
GF557	379	871	1,884	3,013	3,219	2,520	11,886
Nemaguard	508	731	1,831	2,919	3,377	2,373	11,738

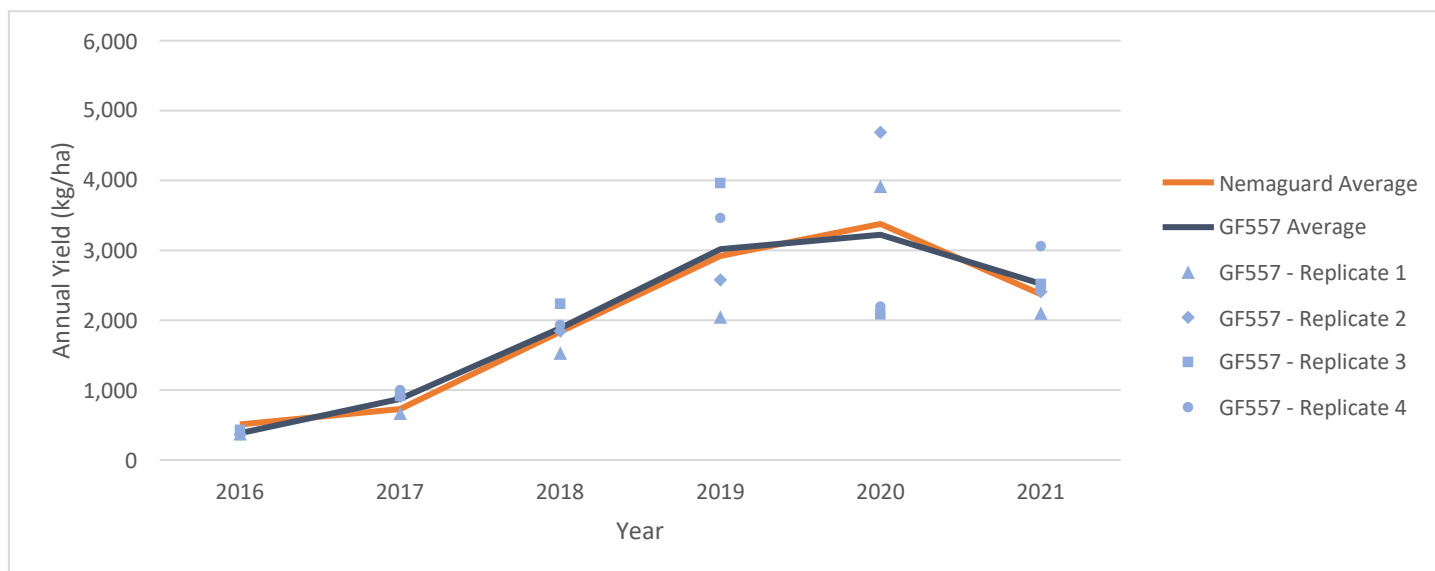


Figure 56. Average annual yields 2016 to 2021 (3rd to 8th leaf).

Rootstock characteristics

Root knot nematode was detected in soils at low levels. Given GF557 is susceptible to root-knot nematode continued monitoring would determine if populations increase and their impact on yield. GF557 had low levels of leaf sodium suggesting it has good salt tolerance, able to exclude sodium and chloride from the soil. GF557 brought forward the start of flowering by one day and shortened the flowering period to 24.75 days compared to Nemaguard (26 days).

Table 23. Rootstock characteristics.

Root knot Nematode	Lesion Nematode	Ring Nematode	Crown Gall	Armillaria	Phytophthora	Salt exclusion	Chlorosis	Vigour	Propagation by cuttings
Susceptible	Characteristics are unpublished for GF557.								



Figure 57. Juvenile tree - 2017.



Figure 58. Mature tree - 2021.



Figure 59. Graft union - 2021.