‘O3A’ Apple Rootstock

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Abstract

‘O3A’ (Ottawa 3 Amélioré, in English ‘Ottawa 3 improved’) is a new rootstock resulting from a mutation in O.3 stool bed and was discovered at the Agriculture and Agri-Food Canada (AAFC) Research Station, St-Jean-sur-Richelieu, Quebec. It produces dwarf trees similar to ‘Ottawa 3’ (O.3) but is precocious (early fruiling), having higher yield efficiency (based on yield/trunk cross sectional area), but is precocious (early fruiting), having higher yield efficiency (based on yield/trunk cross sectional area), lower suckers and wider branch angles. ‘O3A’ is similar to ‘O.3’ in susceptibility to two strains of Erwinia amylovora and four isolates of Phytophthora cactorum (Leb. & Cohn) Schroet. It was planted, in 1997, at the Quebec substations of Freleighsburg and L’Acadie as well as in two grower sites. Trials were performed in replicate and in several plots.

Limited quantities of indexed budwoods are available for research purposes (universities and research stations) from Canadian Food Inspection Agency or from Meiosis Inc (Europe) upon written request. Interested Nurseries may inquire about “non-exclusive licenses” directly from AAFC in Canada or Meiosis Inc. in Europe (http://www.meiosis.co.uk).

Origin

‘O3A’ (Ottawa 3 Amélioré in English ‘Ottawa 3 improved’) is a new rootstock resulting from a mutation in O.3 stool bed and was discovered at the Agriculture and Agri-Food Canada (AAFC) Research Station, St-Jean-sur-Richelieu, Quebec. It produces dwarf trees similar to ‘Ottawa 3’ (O.3) but is precocious (early fruiling), having higher yield efficiency (based on yield/trunk cross sectional area), lower suckers and wider branch angles. ‘O3A’ is similar to ‘O.3’ in susceptibility to two strains of Erwinia amylovora and four isolates of Phytophthora cactorum. It was planted in 1997 in Quebec substations of Freleighsburg and L’Acadie as well as in two grower sites along with SJM and SJP84 series rootstocks. Trials were performed in replicate and in several plots (Khanizadeh et al. 2007, Khanizadeh et al. 2005, Khanizadeh et al. 2003, Khanizadeh et al. 2000).

Performance

The performance of ‘O3A’ using ‘McIntosh Summerland’ as a scion has been monitored since 1997 in two commercial orchards located in Dunham and Mont-St-Gregoire, Quebec. Compared to ‘O.3’, trees produced on ‘O3A’ were similar in size but had better yield efficiency, cumulative yield and were more precocious. It also had similar number of burr knots but were fewer than ‘M.9’ having wider branch angles (Khanizadeh et al. 2005, Khanizadeh et al. 2003). Higher number of suckers was observed on ‘O3A’ but was not significantly different from ‘O.3’ and ‘M.9’.

Availability

A Canadian Plant Breeder’s Right has been issued and limited quantities of indexed budwoods are available for research purposes (universities and research stations) from Canadian Food Inspection Agency, Shahrokh Khanizadeh (North America) or from Meiosis Inc (Europe) upon written request. Interested Nurseries may inquire about “non-exclusive licenses” directly from AAFC in Canada or Meiosis Inc. in Europe (http://www.meiosis.co.uk).

References


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