



Resistance to European canker in four new apple varieties

Amanda Karlstrom

Amanda.Karlstrom@niab.com



Resistance to *Neonectria ditissima* in new cultivars

- Susceptibility to canker reason to not adopt new apple cultivars
- Testing new cultivars in controlled experiments with standards instead of natural infections



Apple cultivars

Experiment 1



Fengapi (Tessa®)



NY1
(SnapDragon®)



PremA129
(Dazzle®)

Experiment 2



SunSpark

Experimental set-up



Trees planted in randomised block design in the field with four replicates



Artificial inoculations of bud scars in early winter

Multiple branches inoculated per tree

Experiment 1: single isolate of *Neonectria*

Experiment 2: mix of isolates of *Neonectria*



Measurements of lesion size (1st year post inoculation) and assessment of tree health (2nd year post inoculation)

Standard varieties

Highly tolerant

- **Santana**
- **Malus robusta seedling**

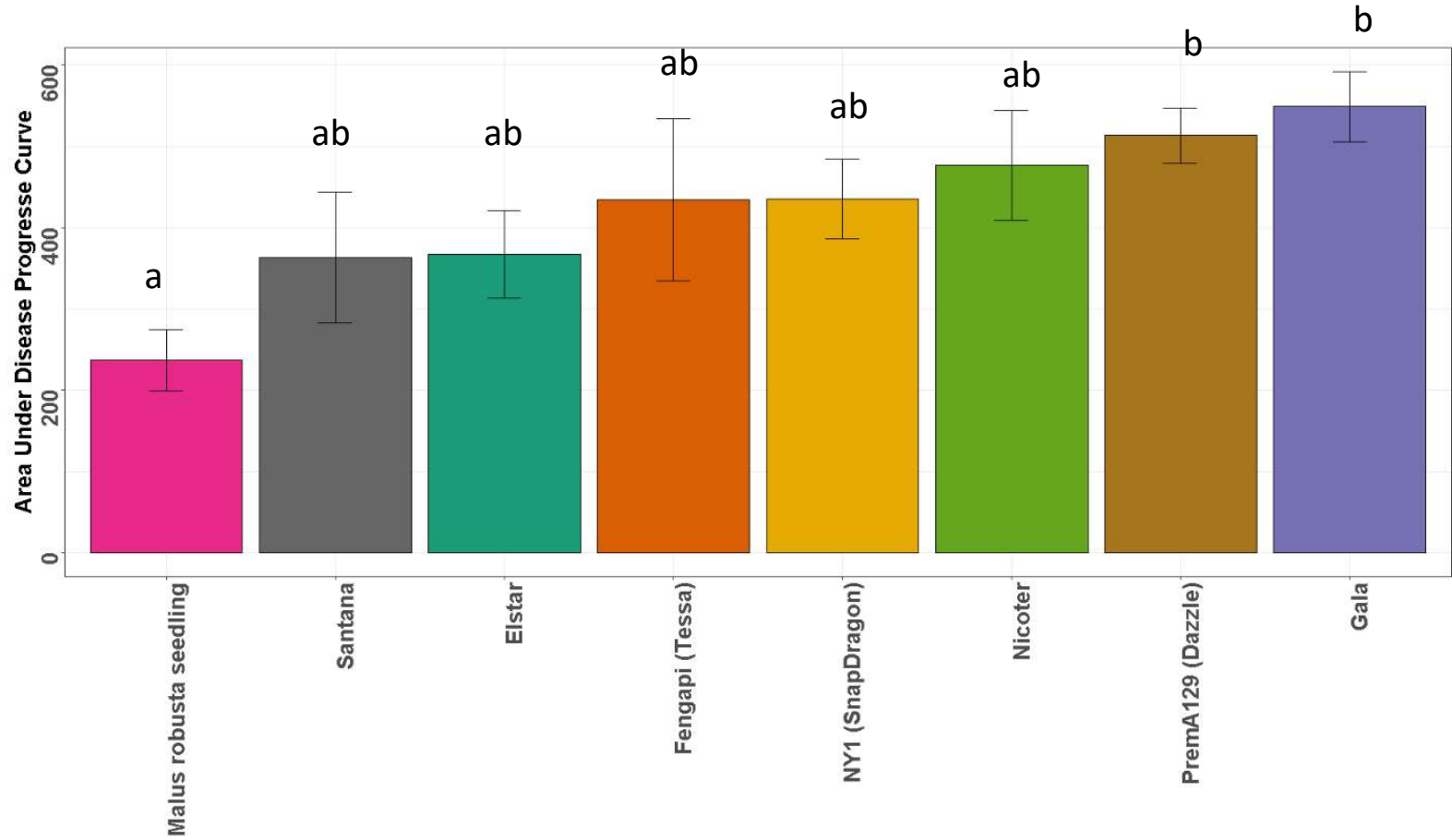
Moderately tolerant

- **Elstar**

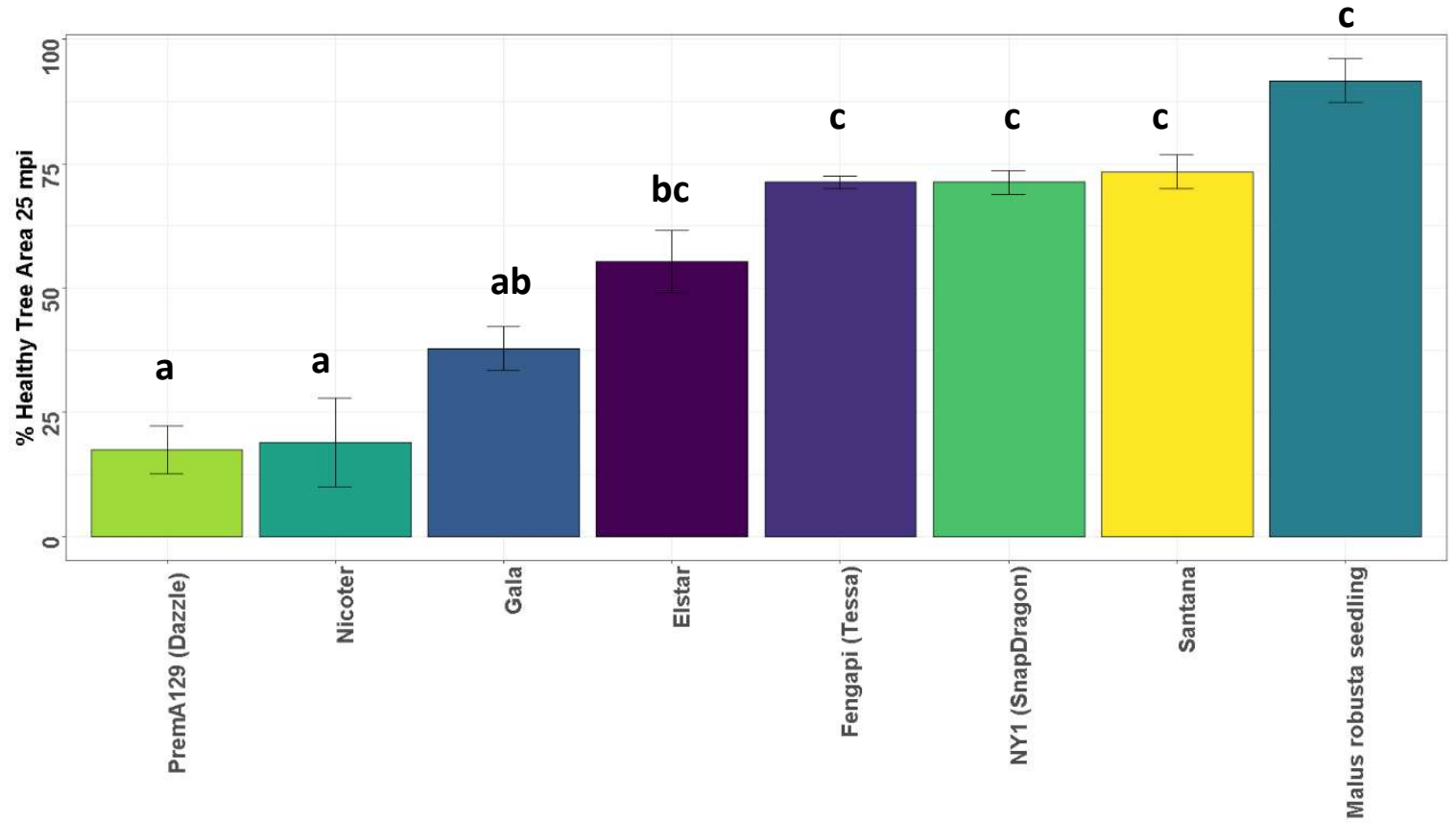
Susceptible

- **Nicoter**
- **Gala**

Experiment
1
First year of
assessment



Experiment 2
Second year of
assessment
(25 mpi)



Percent of healthy crown area

20 months post inoculation

PremA129 (Dazzle®)



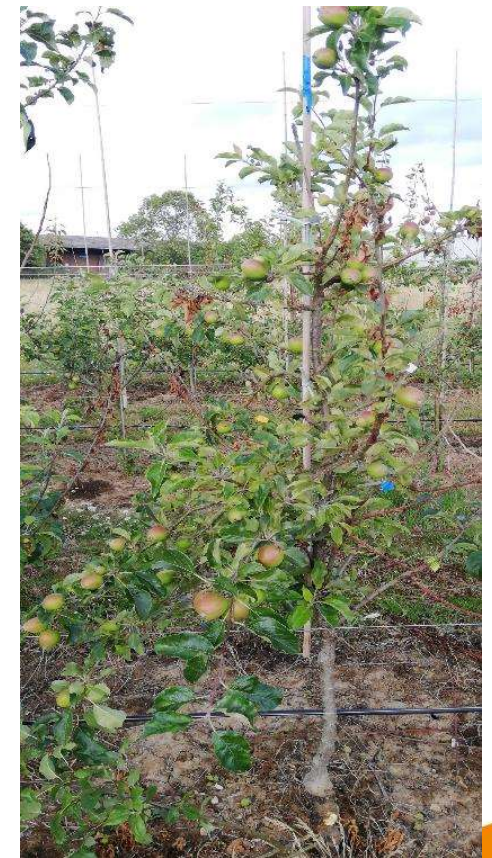
Nicoter (Kanзи®)



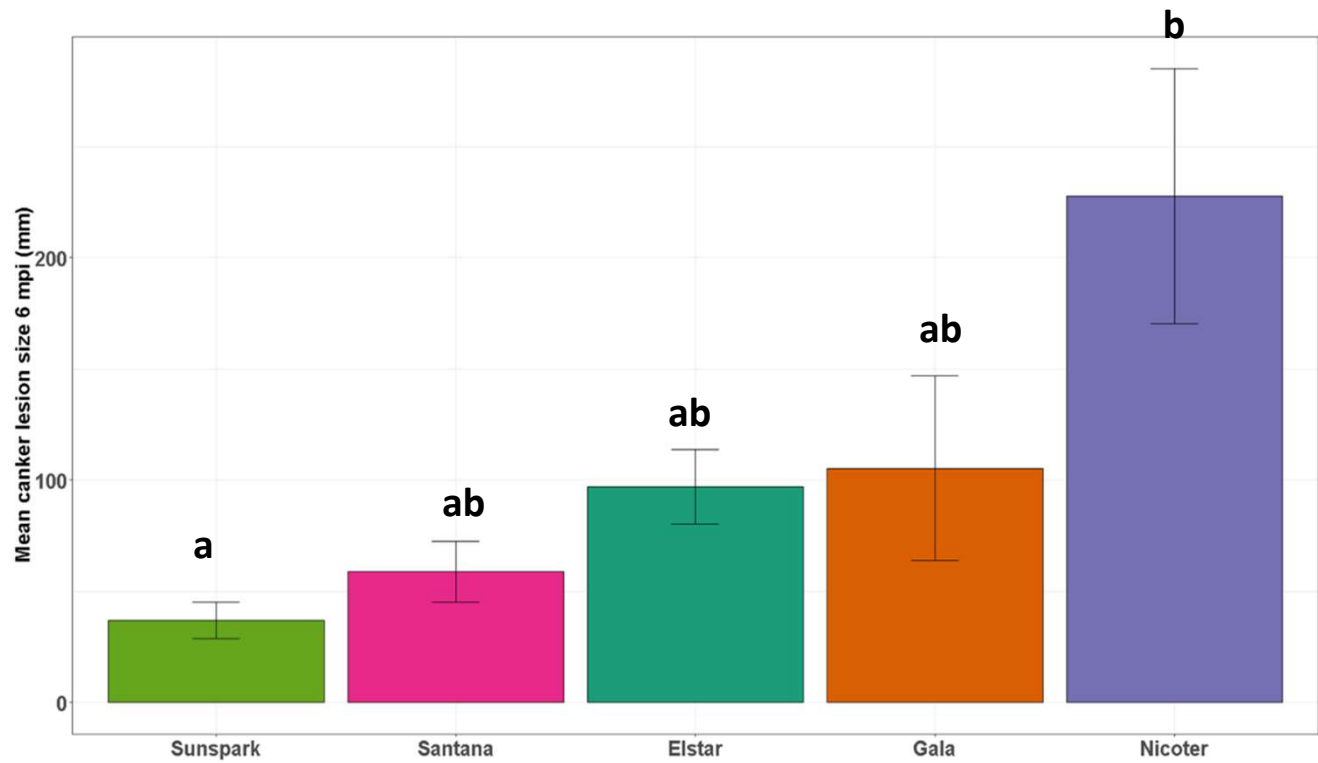
NY1 (SnapDragon®)



Fengapi (Tessa®)



Experiment
2
Sunspark
First year of
assessment



Conclusions

- Long term experiments required for good separation between susceptible and resistant varieties
- PremA129 (Dazzle®) highly susceptible and not recommended in regions with high canker pressure
- Fengapi (Tessa®) and NY1 (SnapDragon®) tolerant
- First year data from Sunspark indicates tolerance