



Enhancing Mechanical Harvesting Systems - Abscission

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 **An abscission agent is a compound that is used to loosen mature fruit**

 **The abscission agent is applied to canopies with a tractor and sprayer**

 **When the abscission agent is used in combination with mechanical harvesting:**

increase harvesting speed

enable late season harvesting

 **potential to greatly reduce harvesting costs**



An abscission agent is a compound that is used to loosen mature fruit

26 lbs (12 kg) → 8 lbs (3.5 kg)



Minimal leaf loss, phytotoxicity

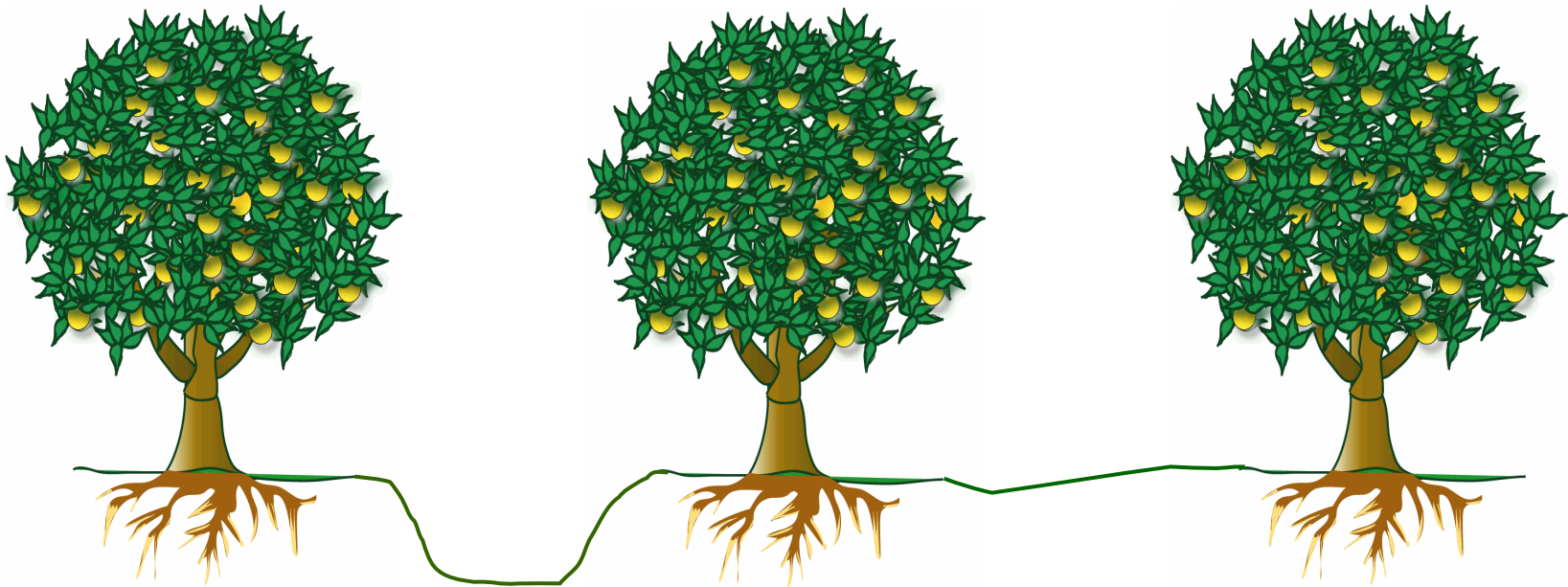
Original 'Release' Reformulated 'CMNP'

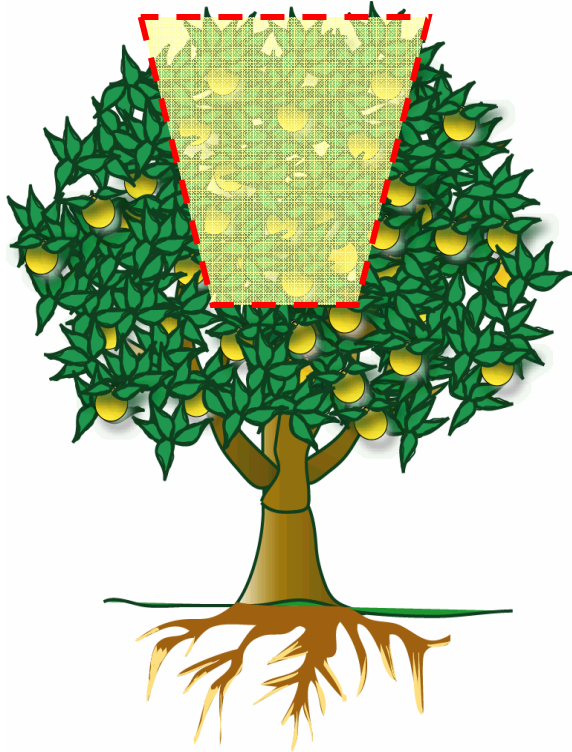




The abscission agent is applied to canopies with a tractor and sprayer

Complete, uniform coverage essential





Fruit in the 'cone' are least likely to be covered by the spray

Conventional air-blast



Dense foliage

Distance of spray origin to target

Wind speed influences

GreenTech multi-head

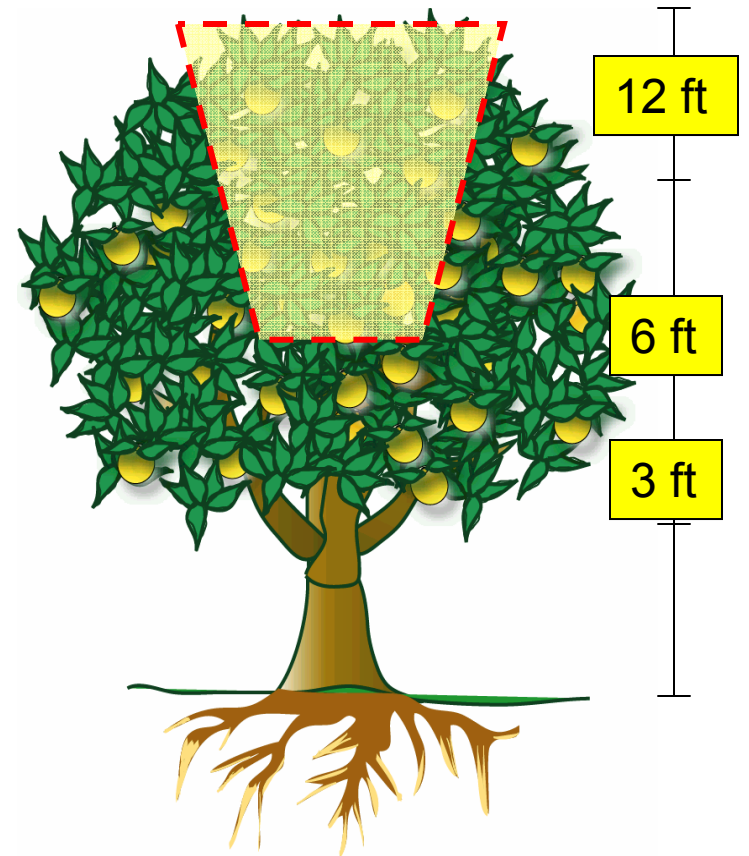
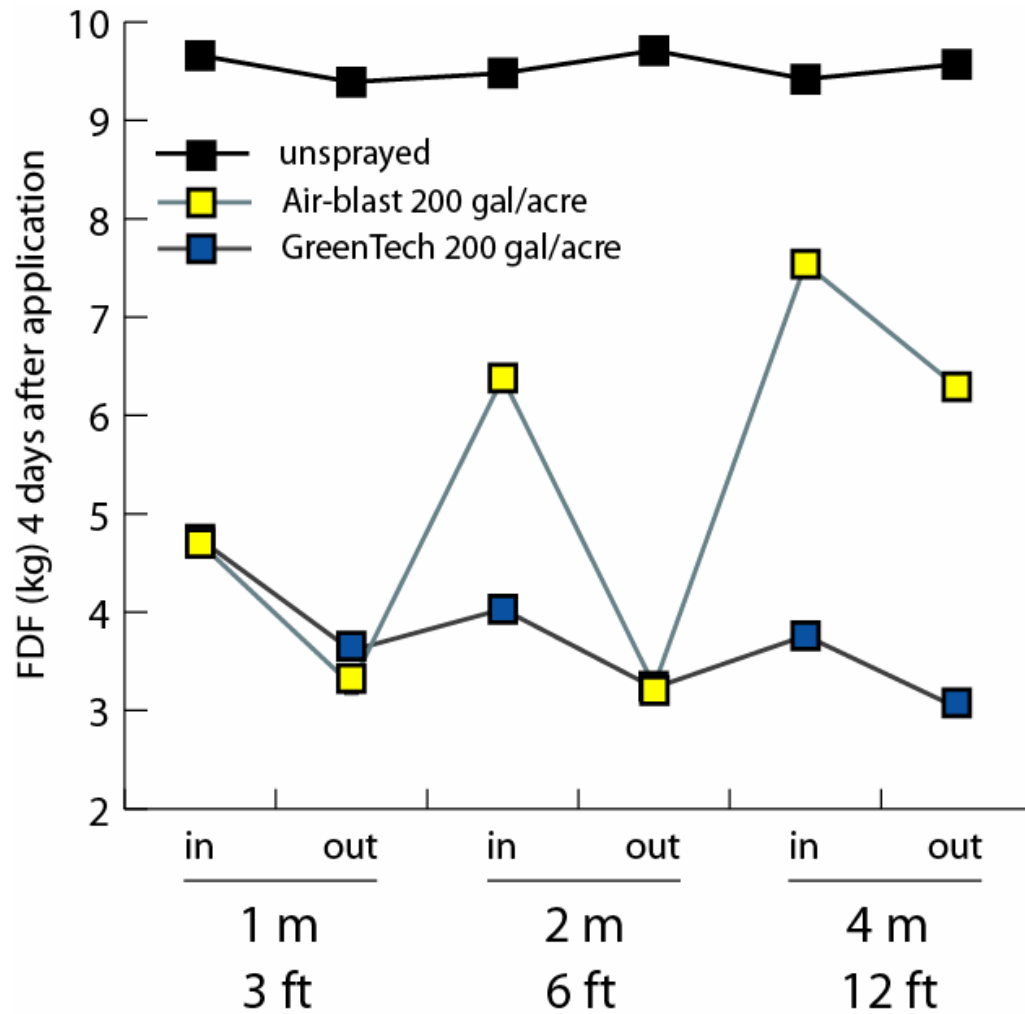


More uniform coverage

Distance of spray origin reduced

Less influenced by wind speed

FDF measures the strength of fruit attachment on the stem



More uniform spray coverage – higher fruit removal

	% fruit removal with mechanical harvester (200 gallons/acre)*
Airblast sprayer	89.3 b
GreenTech sprayer	96.9 a

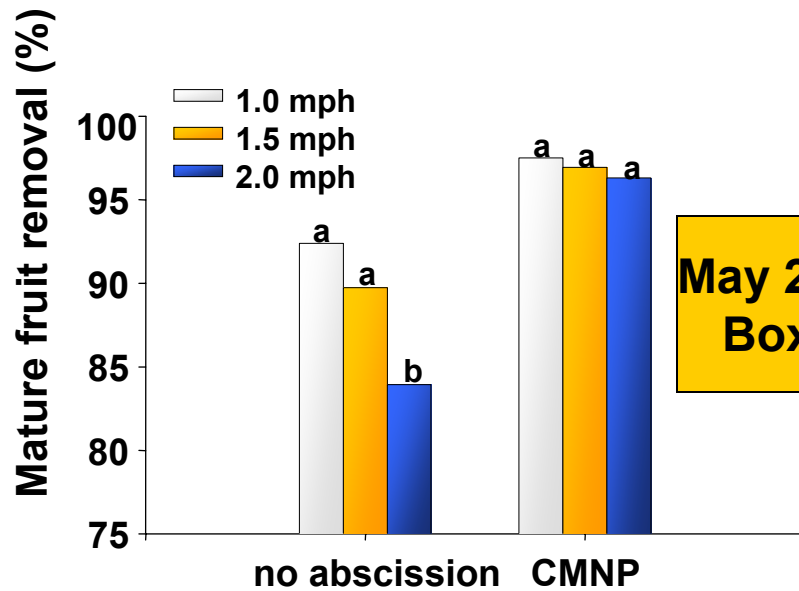
*250 ppm CMNP



When the abscission agent is used in combination with mechanical harvesting:

increase harvesting speed

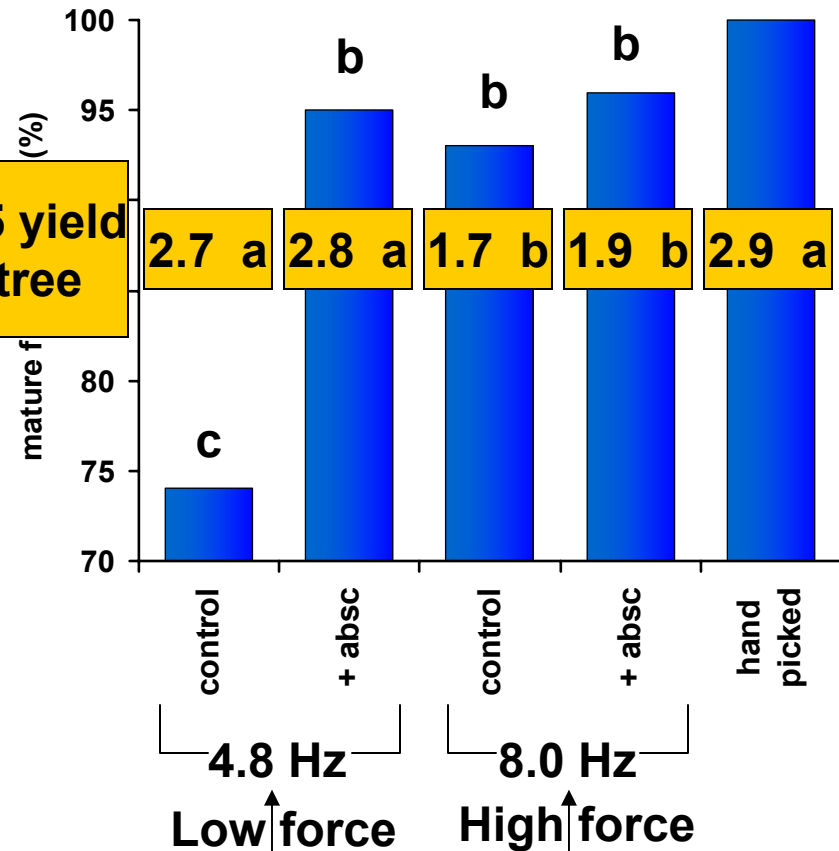
enable late season harvesting



Canopy shaker harvest

May 2005 yield
Boxes/tree

Trunk shaker harvest
May 25, 2004





When the abscission agent is used in combination with mechanical harvesting:



potential to greatly reduce harvesting costs

Economic projections: *IF*

- 1. Loads not restricted**
- 2. Acreage not restricted**
- 3. Late season harvest a reality**
- 4. Abscission increases harvest speed and fruit recovery**

***THEN:* harvest costs cut at least in half when compared with hand harvesting**

Path and Timeline to CMNP Registration

