

Gas At Site

DCA Adoption in the USA; An Update

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DCA Technologies in the USA

There are currently two dominant DCA technologies commercially available in the USA:

DCA-CF (Chlorophyll Fluorescence)

- HarvestWatch

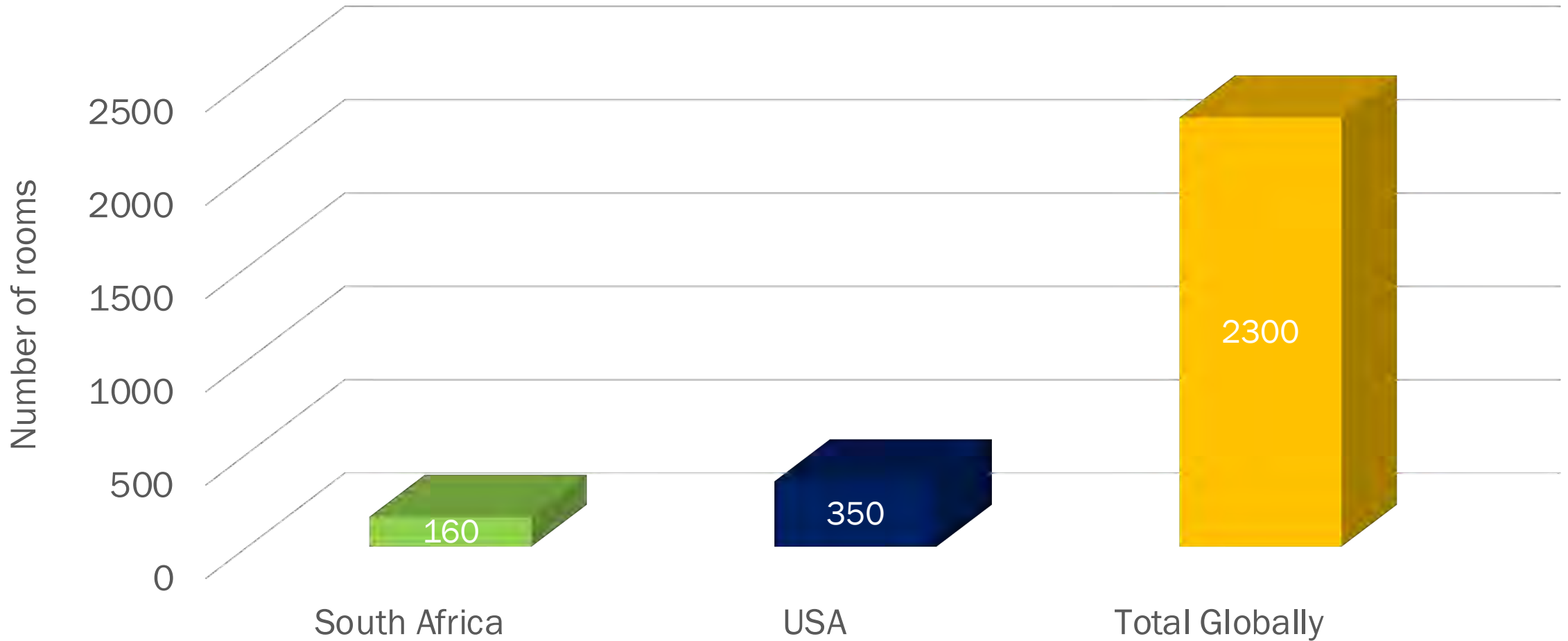


DCA-RQ (Respiration Quotient)

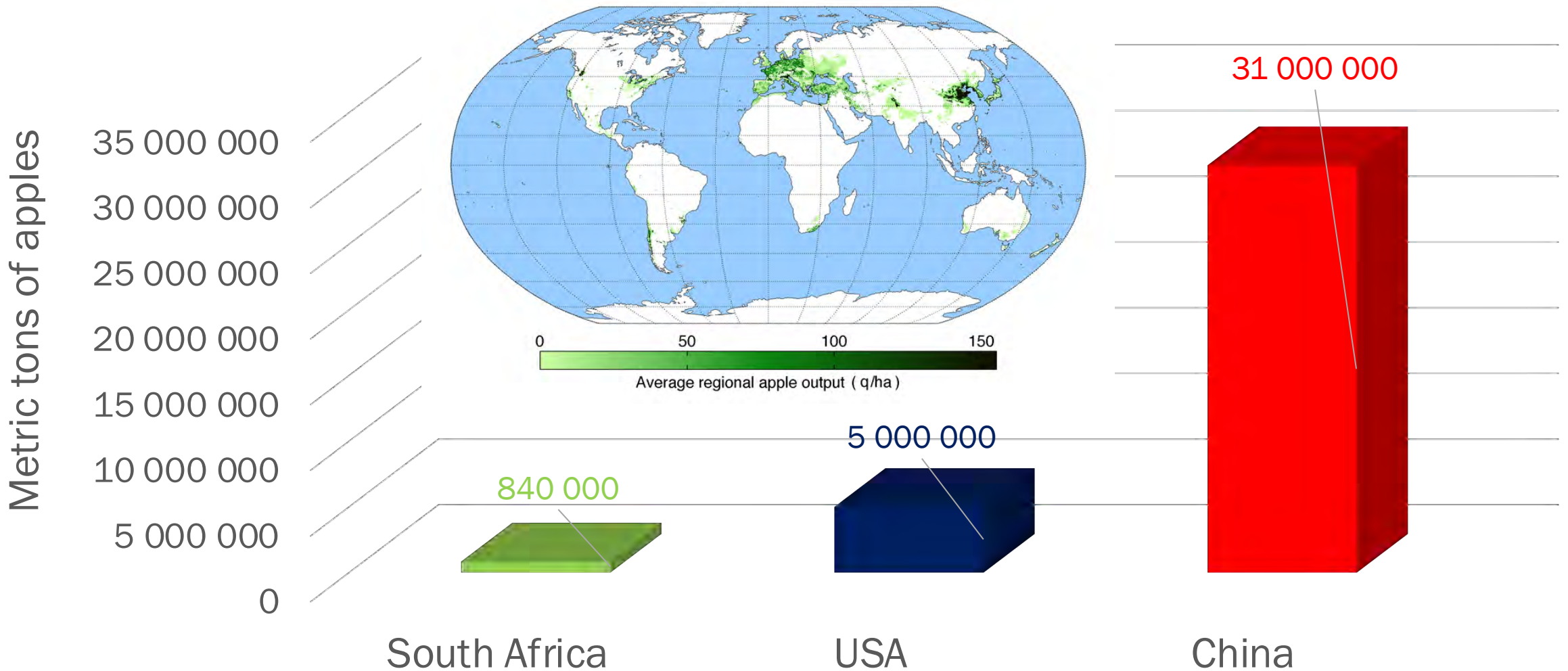
- SafePod



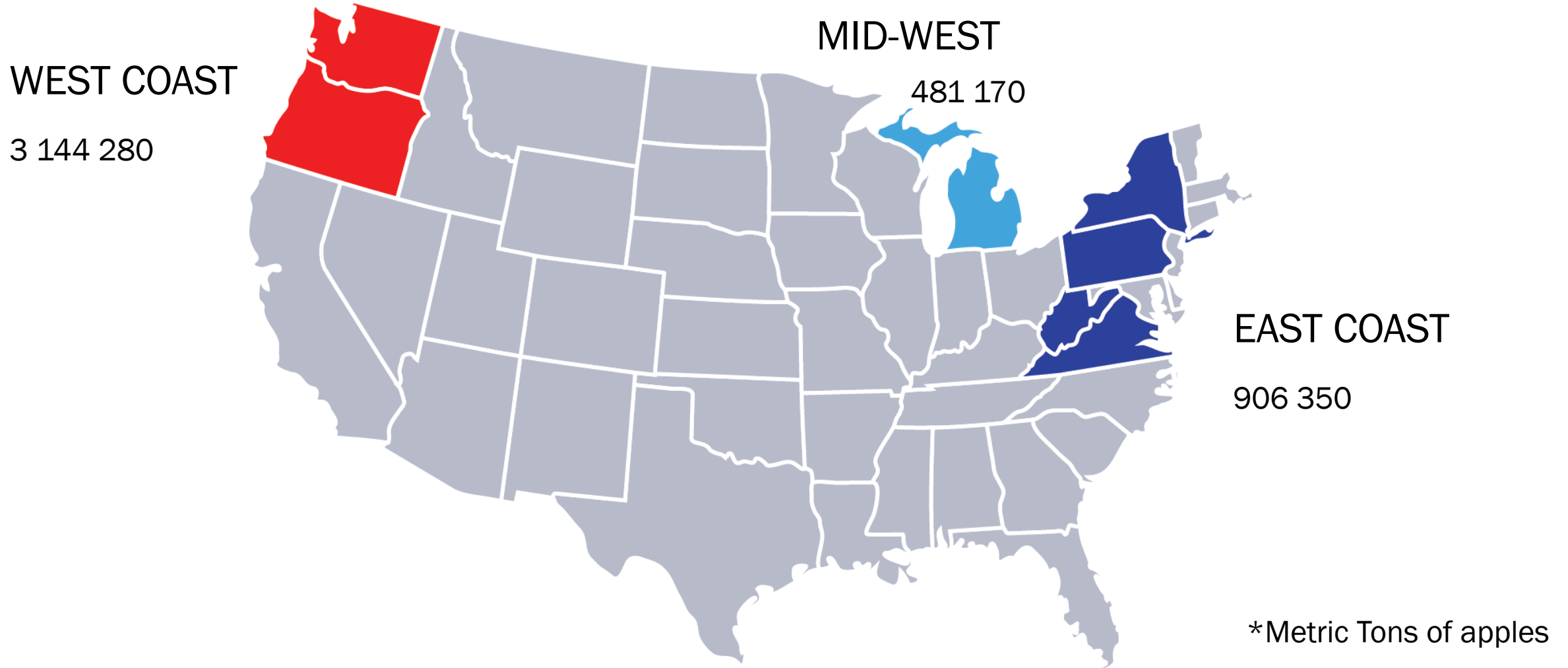
HarvestWatch DCA-CF Adoption



Global Apple Production 2018/2019



Apple Producing Regions in the USA



*Metric Tons of apples

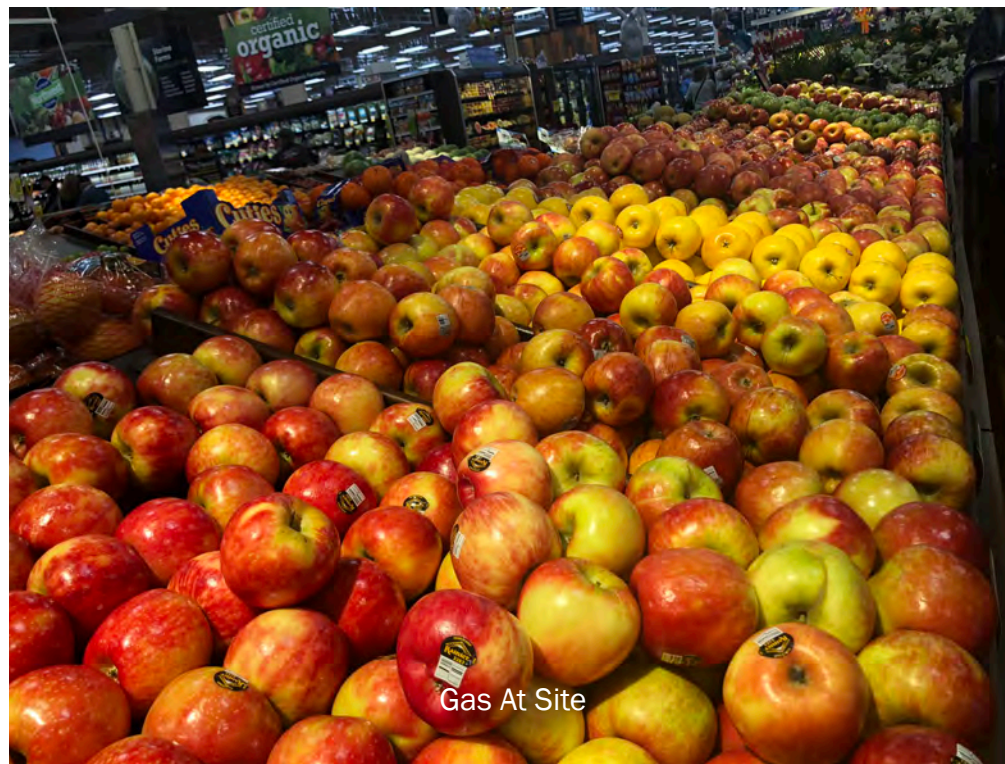
Apple Production on the West Coast, USA



- Washington is the largest producer and exporter of apples in the USA;
- Dry climate, nutrient rich soil and abundance of water provide prime apple growing conditions;
- Absence of key pests and fungal problems allow growers to produce organic apples successfully;
- The organic market is approaching 20%;
- Organic fruit are priced at a premium;
- Organic fruit need DCA:
 - consider it a natural 1-MCP.





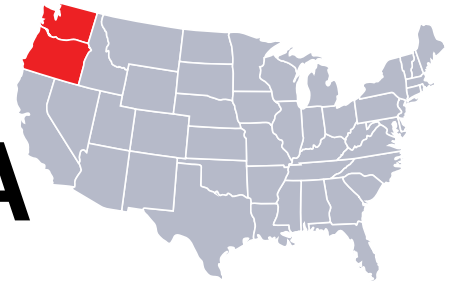


Major Varieties Grown in the West Coast, USA:

- Red Delicious (34%)
- Galas (19%)
- Fuji (13%)
- Granny Smith (12%)
- Golden Delicious (10%)
- Cripps Pink (3%)
- Braeburn (3%)
- Honeycrisp (3%)

Source: Washington State Apple Commission

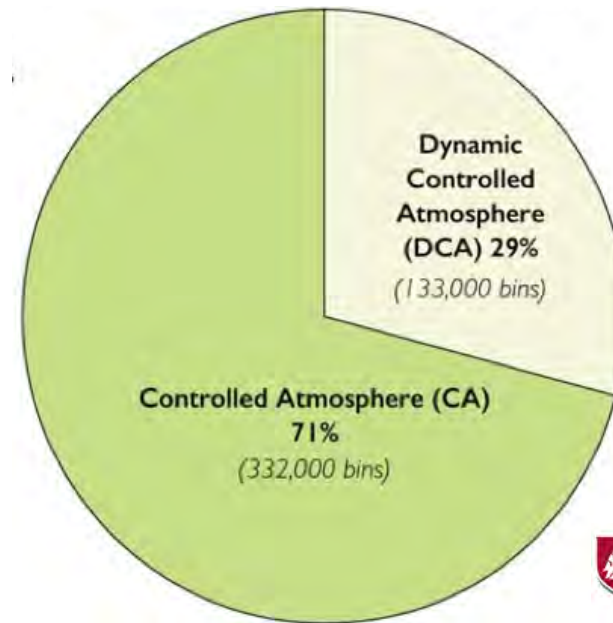




DCA Adoption in the West Coast, USA

- Largest adopter of DCA in the USA.
- Reasons for the industry adopting DCA technologies include:
 - Long Term Storage of organic fruit
 - Better quality of conventional fruit

PLANS FOR FUTURE APPLE STORAGE
(Under construction planned for next 2 years)



WSU Tree Fruit Extension

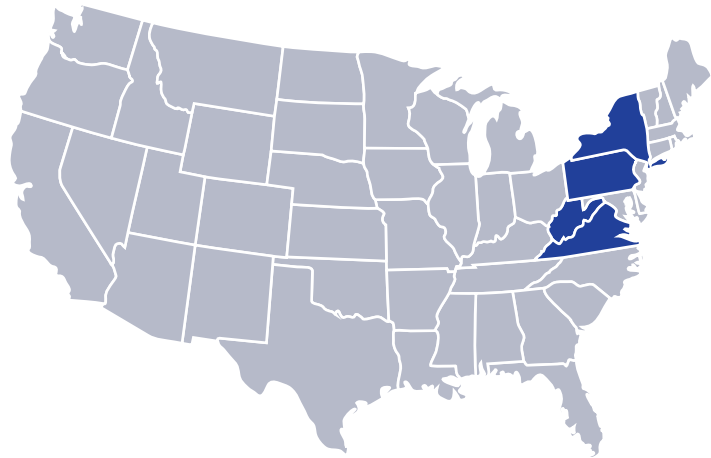
“For one organic room fruit one can get up to \$150 000 more for the same fruit if one can extend the marketing window from march through to may.”

DCA can be considered the natural 1-MCP:

- Firmness Retention
- Superficial scald Prevention
- Taste Enhancement
- Extended Storage life



Apple Production on the East Coast, USA



- 900 000 tons of fruit per year;
- Characterized by a very different climate, varieties and growers to the West.
- The industry is smaller and traditionally more conservative than the West Coast.
- Humid climate with heavy rainfall mean pest and disease management is important.
- Rot and fungal problems mean the region does not produce organic fruit.
- High chemical and fungicide usage



Major Varieties Grown in East Coast, USA:

- McIntosh
- Empire
- Red Delicious
- Cortland
- Golden Delicious
- Rome
- Idared
- Crispin
- Gala

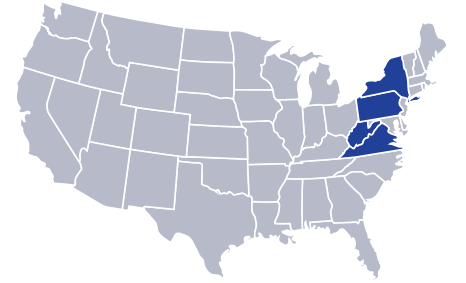
Source: Apples of New York



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DCA Adoption in the East Coast, USA



- The East Coast has been slow to adopt DCA technologies in the past.
- Interest is growing because of beneficial effects of DCA on storage disorders other than superficial scald control:
 - DCA delays the appearance of **Stem End Browning** in Gala.



Cornell **CALS**

College of Agriculture
and Life Sciences

In Conclusion

A pair of hands is shown holding three apples. The hands are positioned in the center of the frame, with the fingers gently cupping the fruit. The apples are of various colors, including red, yellow, and green. The background is dark and out of focus, suggesting an outdoor setting like a farm or orchard. The overall mood is one of care and presentation.