Low Volume Fungicide Applications to Corn

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Treatments

- 2009
  - QuiltXcel – 1 GPA – Water only – Flat fan
  - QuiltXcel – 2 GPA – Water only – Flat fan
  - QuiltXcel – 1 GPA – Water + COC – Flat fan
  - QuiltXcel – 2 GPA – Water + COC – Flat fan
  - QuiltXcel – 1 GPA – Water only – Rotary Atomizer
- 2010
  - QuiltXcel – 0.5 GPA – Water + COC – Flat fan
  - QuiltXcel – 1 GPA – Water + COC – Flat fan
  - QuiltXcel – 0.5 GPA – Water + COC – Rotary Atomizer
  - QuiltXcel – 1 GPA – Water + COC – Rotary Atomizer
  - QuiltXcel – 0.5 GPA – Water only – Flat fan
  - QuiltXcel – 2 GPA – Water only – Flat fan
  - Headline AMP – 2 GPA – Water + NIS – Flat fan

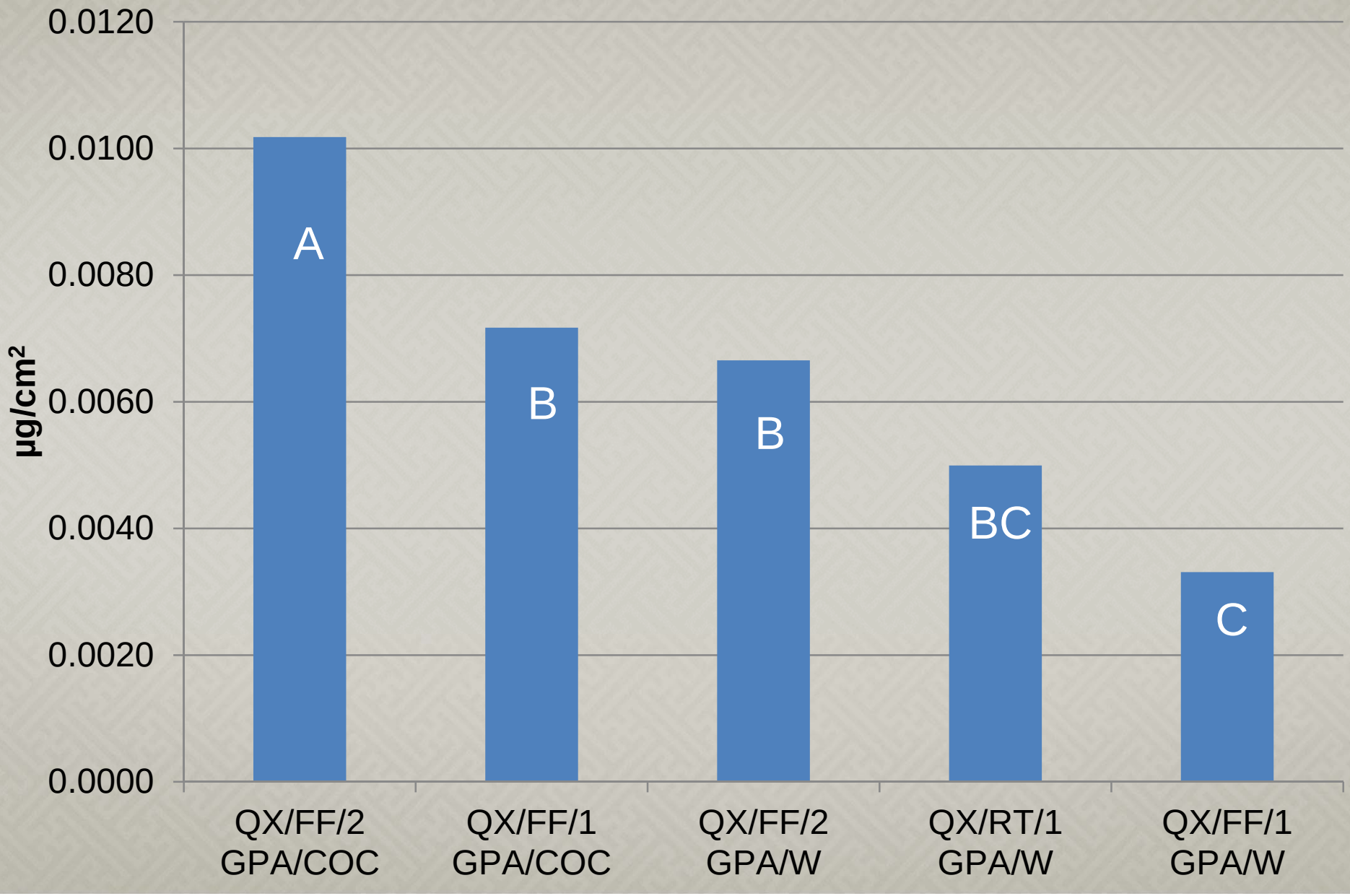
Application Equipment & Weather

- Flat fan nozzles – Spray Systems 65 degree fan
  - 2 GPA: FF6515, 40 psi, 30 deg, 24 nozzles
  - 1 GPA: FF6510, 40 psi, 30 deg, 19 nozzles
  - 0.5 GPA: FF6510, 40 psi, 30 deg, 10 nozzles
- Rotary Atomizers – ASC
  - 1 GPA: D8, 44 psi, blade setting 2, 9 nozzles
  - 0.5 GPA: D6, 35 psi, blade setting 2, 9 nozzles
- AT402B, 67 ft swath, 140 mph
- 2009 Weather: 80º F, 50% RH, 1-2 MPH, 6 MPH
- 2010 Weather: 87º F, 35% RH, 1-2 MPH, 5 MPH

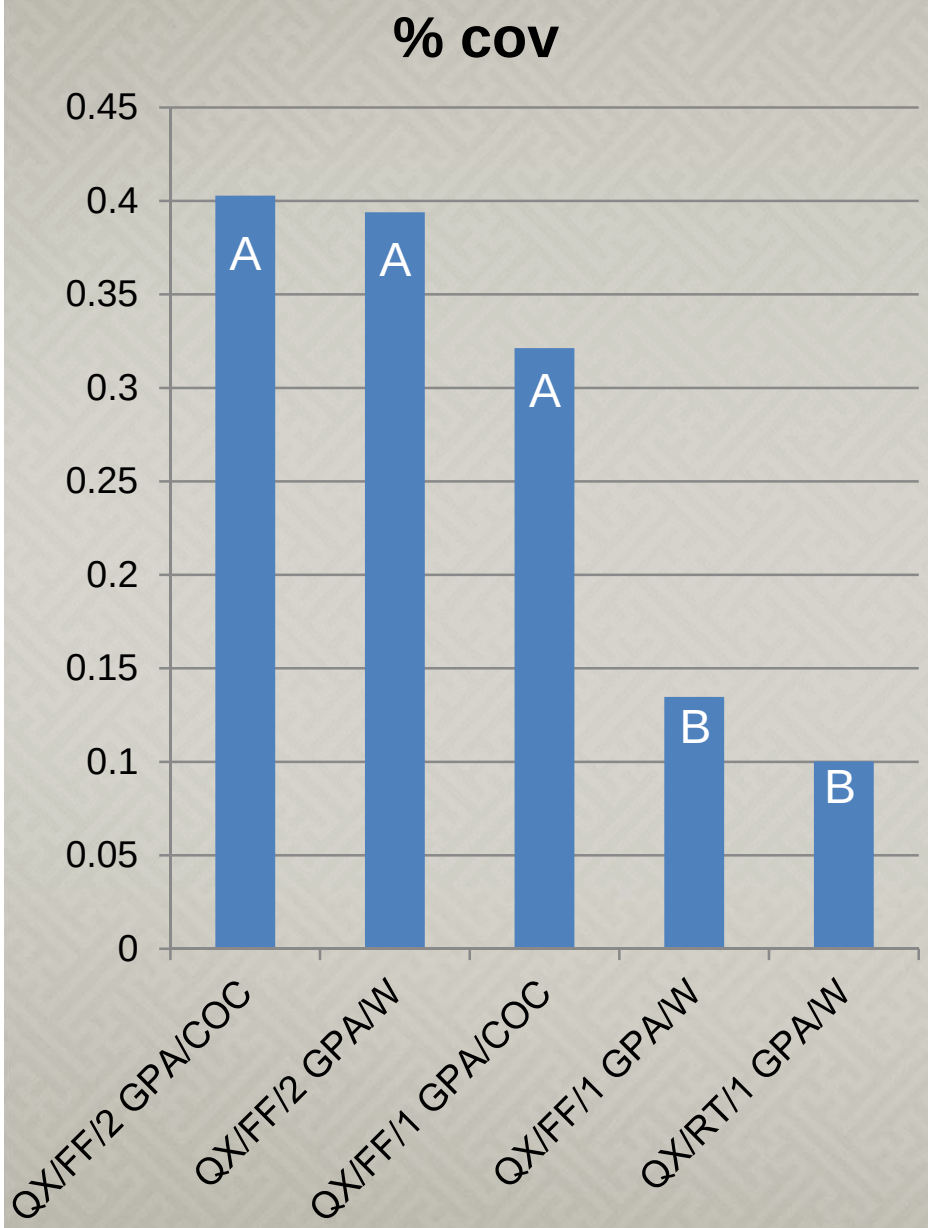
Sampling Procedures

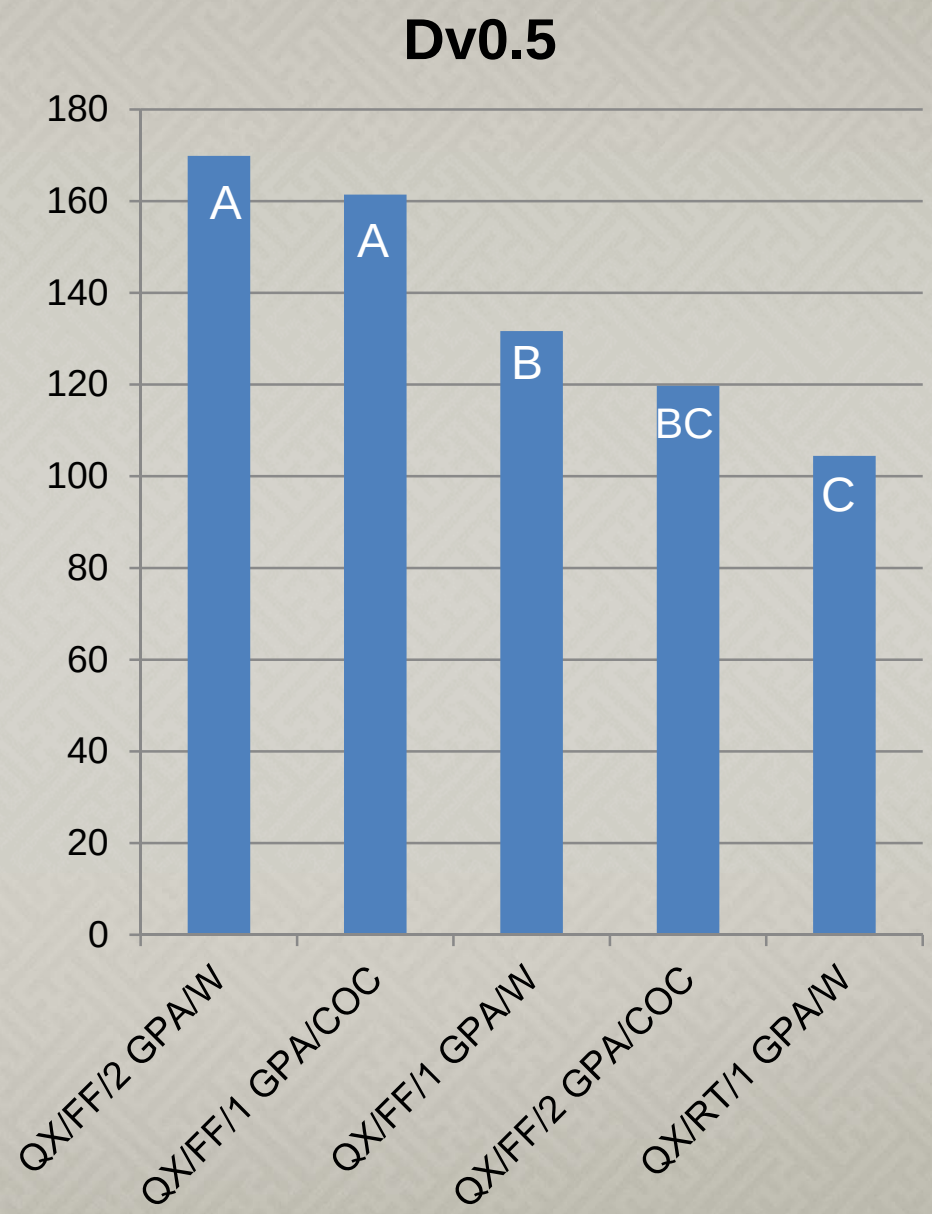
- Deposition
  - Caracid Brilliant Flavine
  - Applied at 10 grams/acre
  - Mylar plates at ear height
- Coverage and droplet size
  - Vision pink dye
  - Kromokote cards at 4 locations
- Three swaths per treatment – sample centers
- Three fields in 2009; Two in 2010
- Two plots/treatment/field
- Weather and canopy

Deposition - 2009

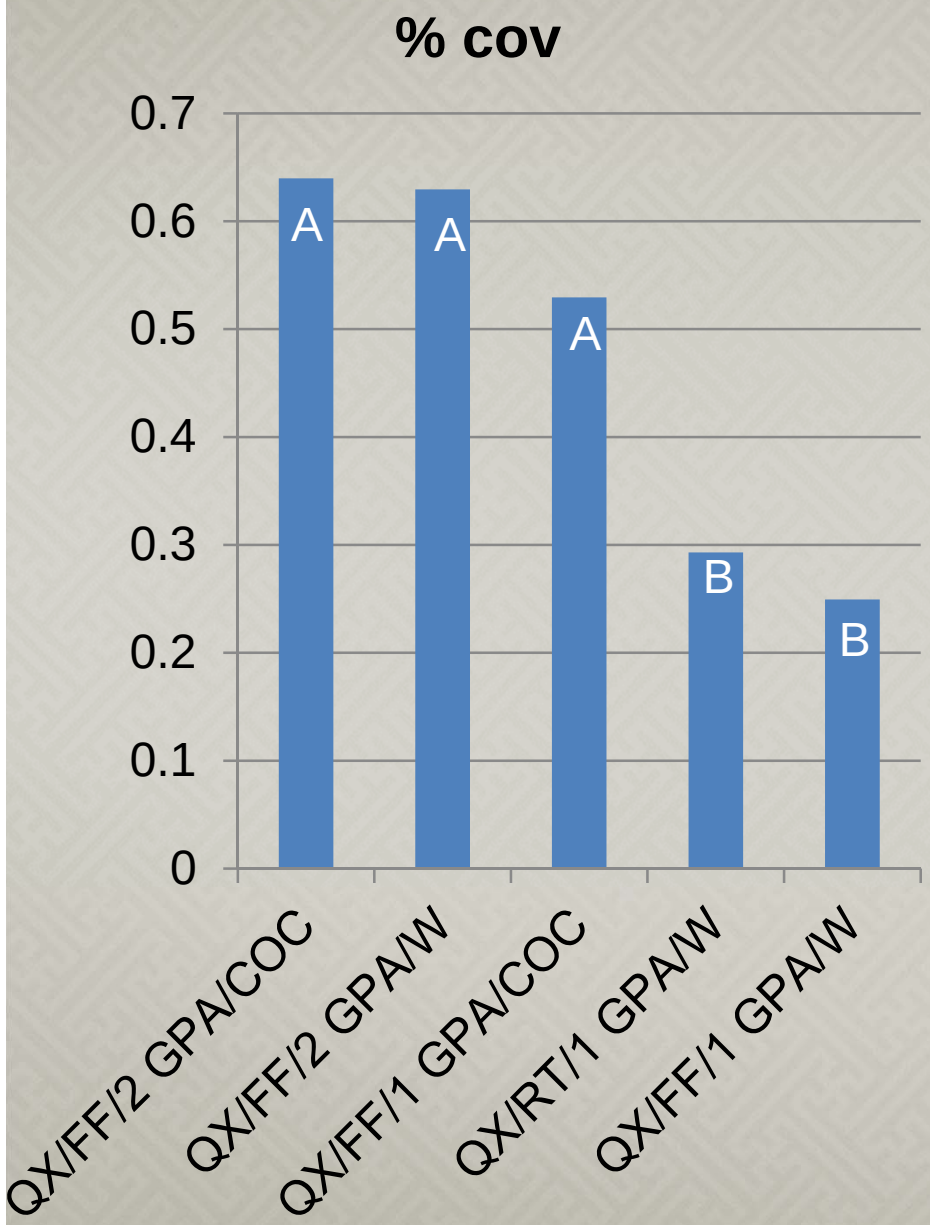


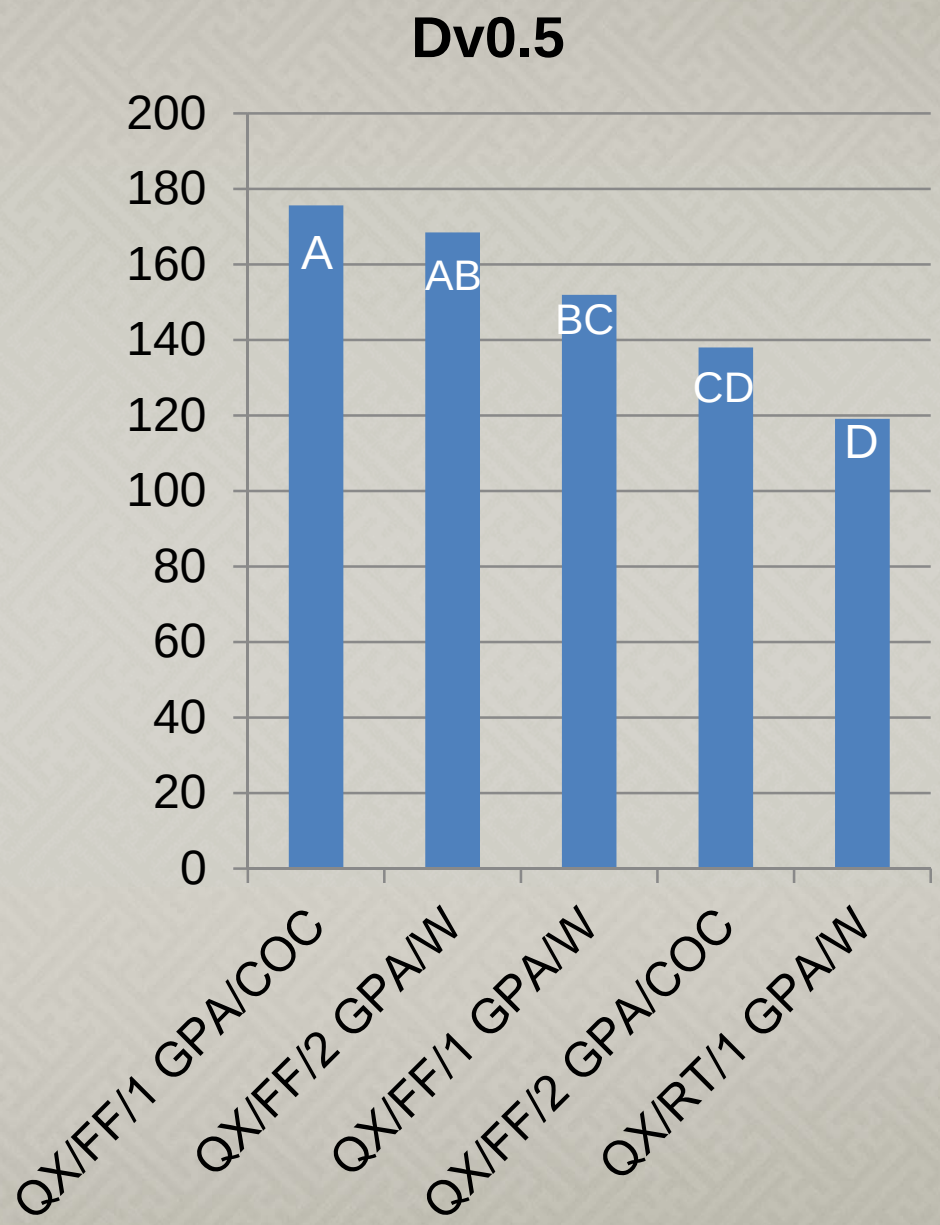
P cards – 2009: % cov and VMD



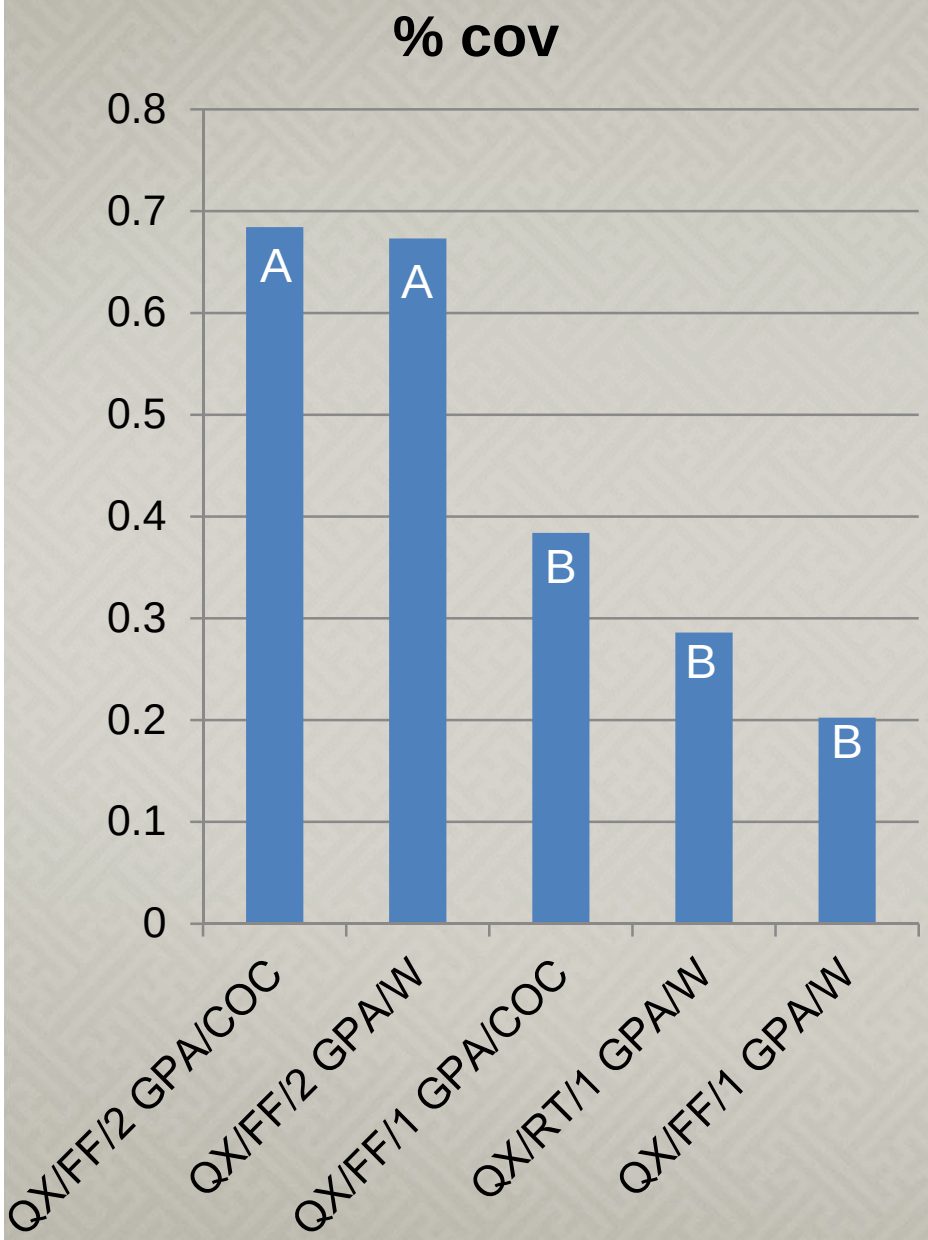


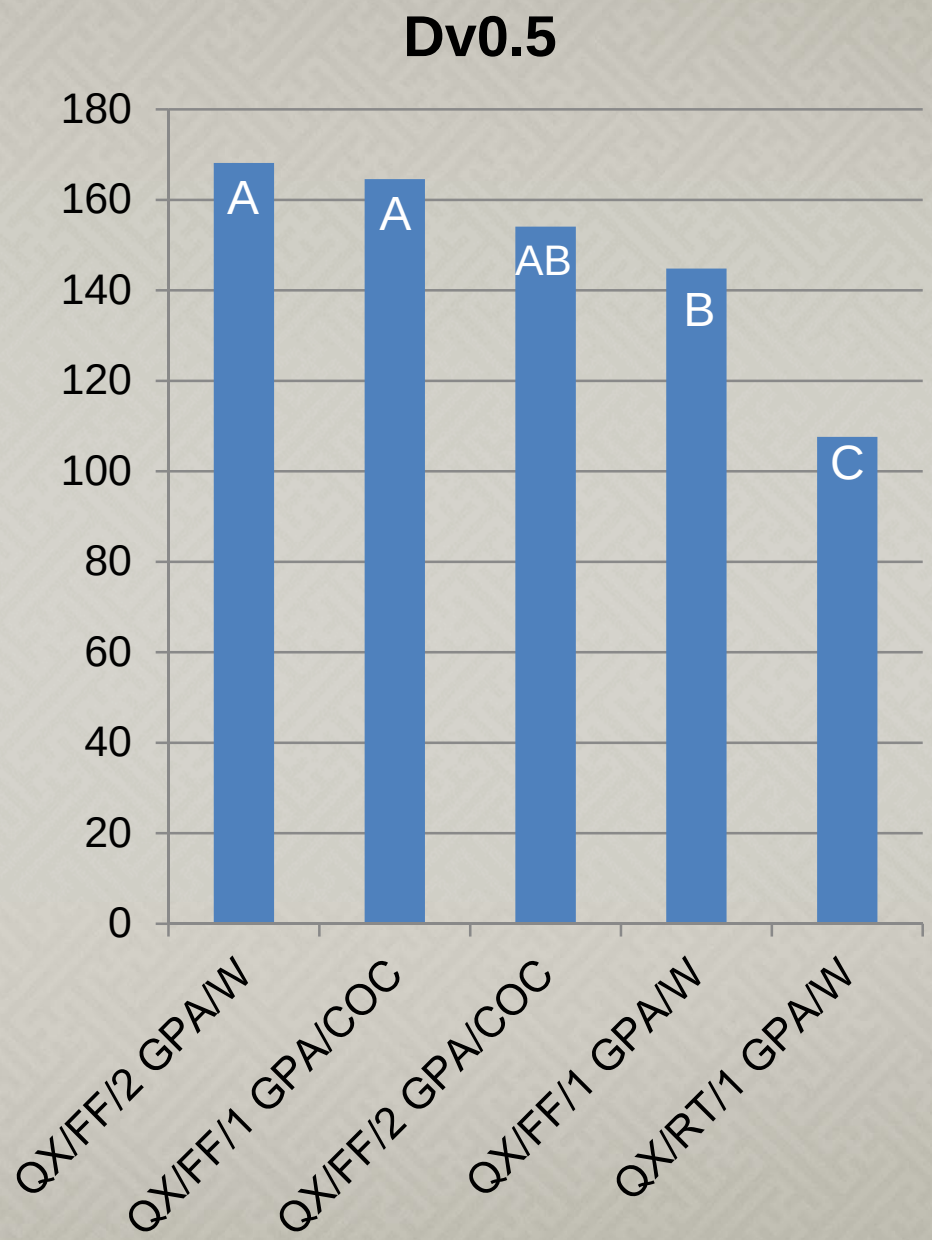
U cards – 2009: % cov and VMD



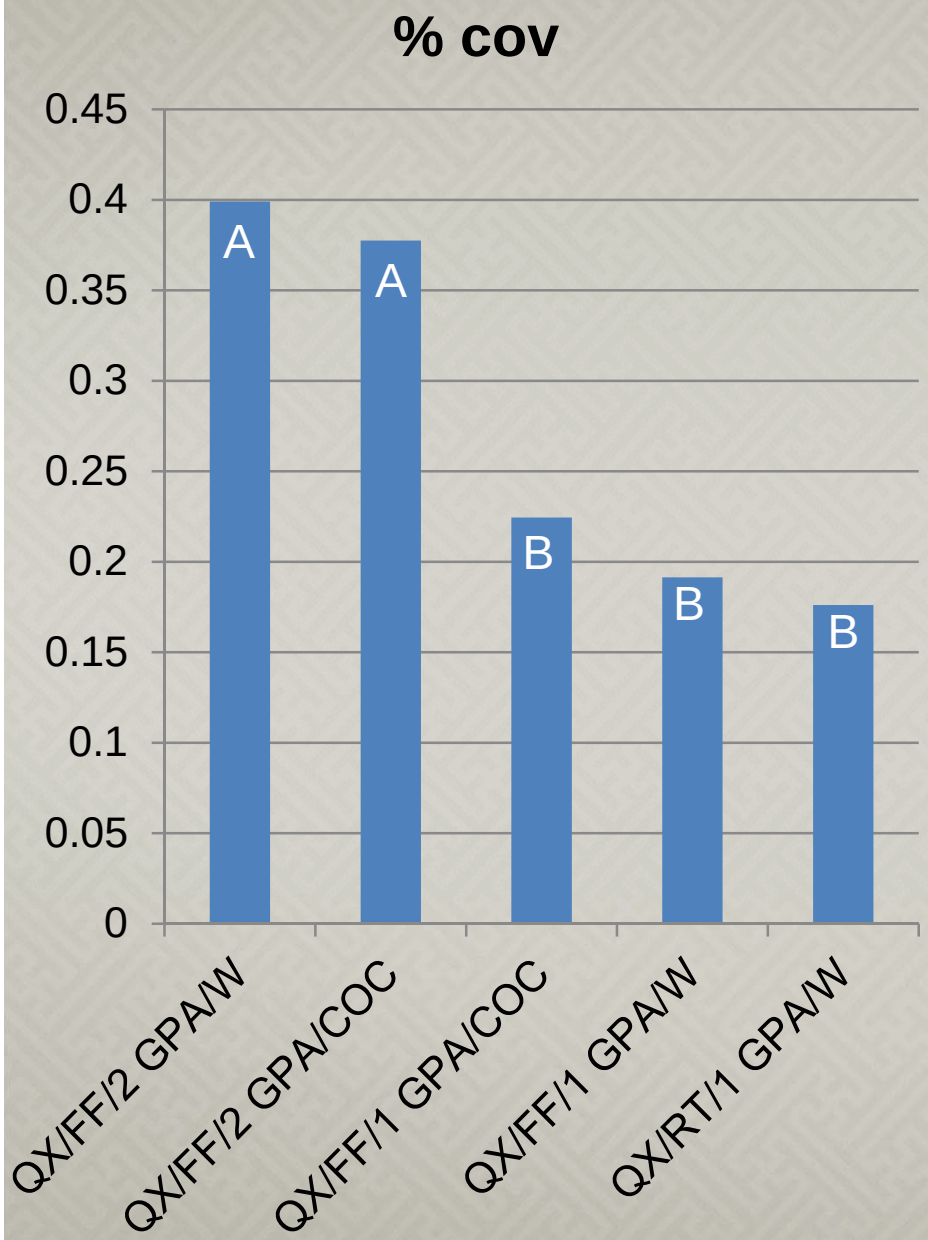


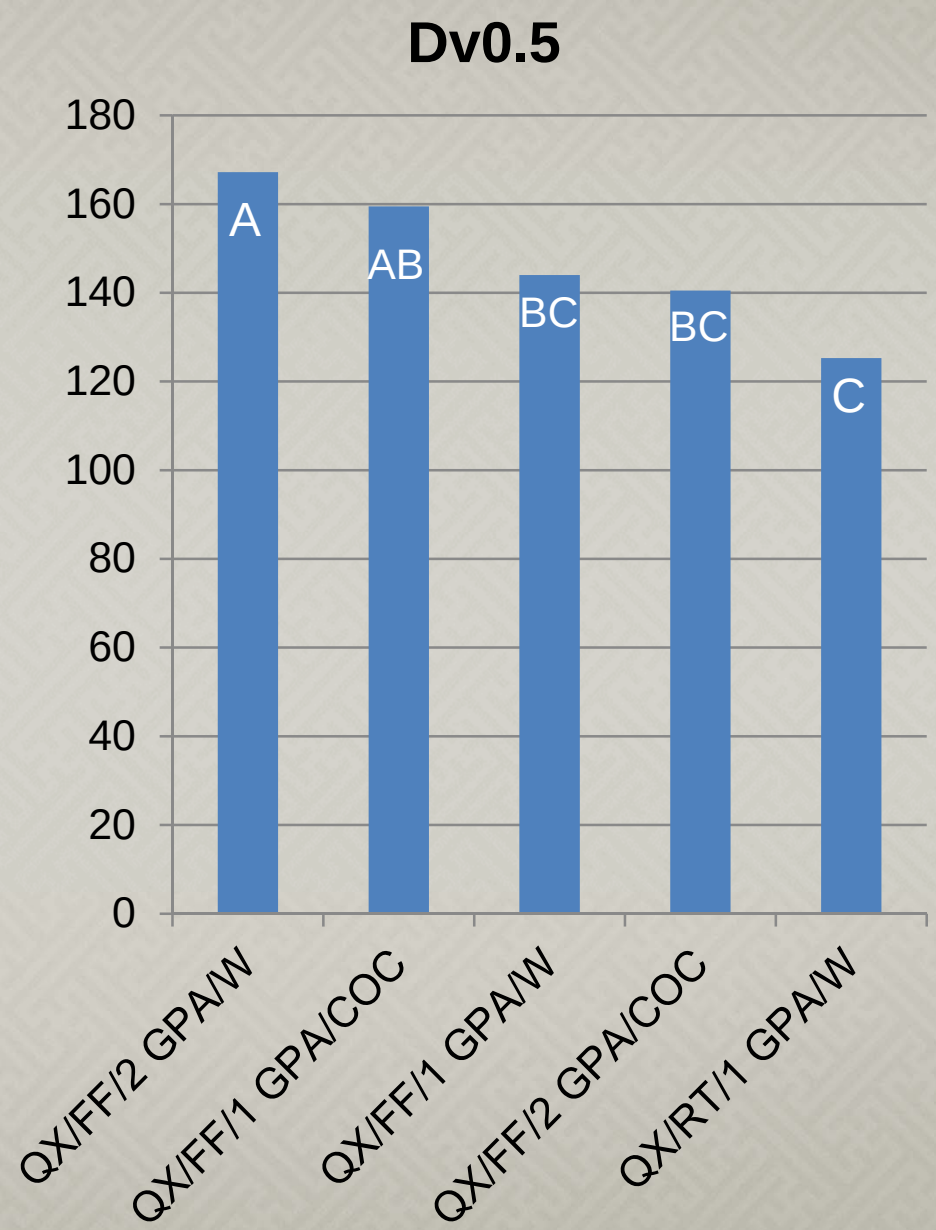
M cards – 2009: % cov and VMD





L cards – 2009: % cov and VMD



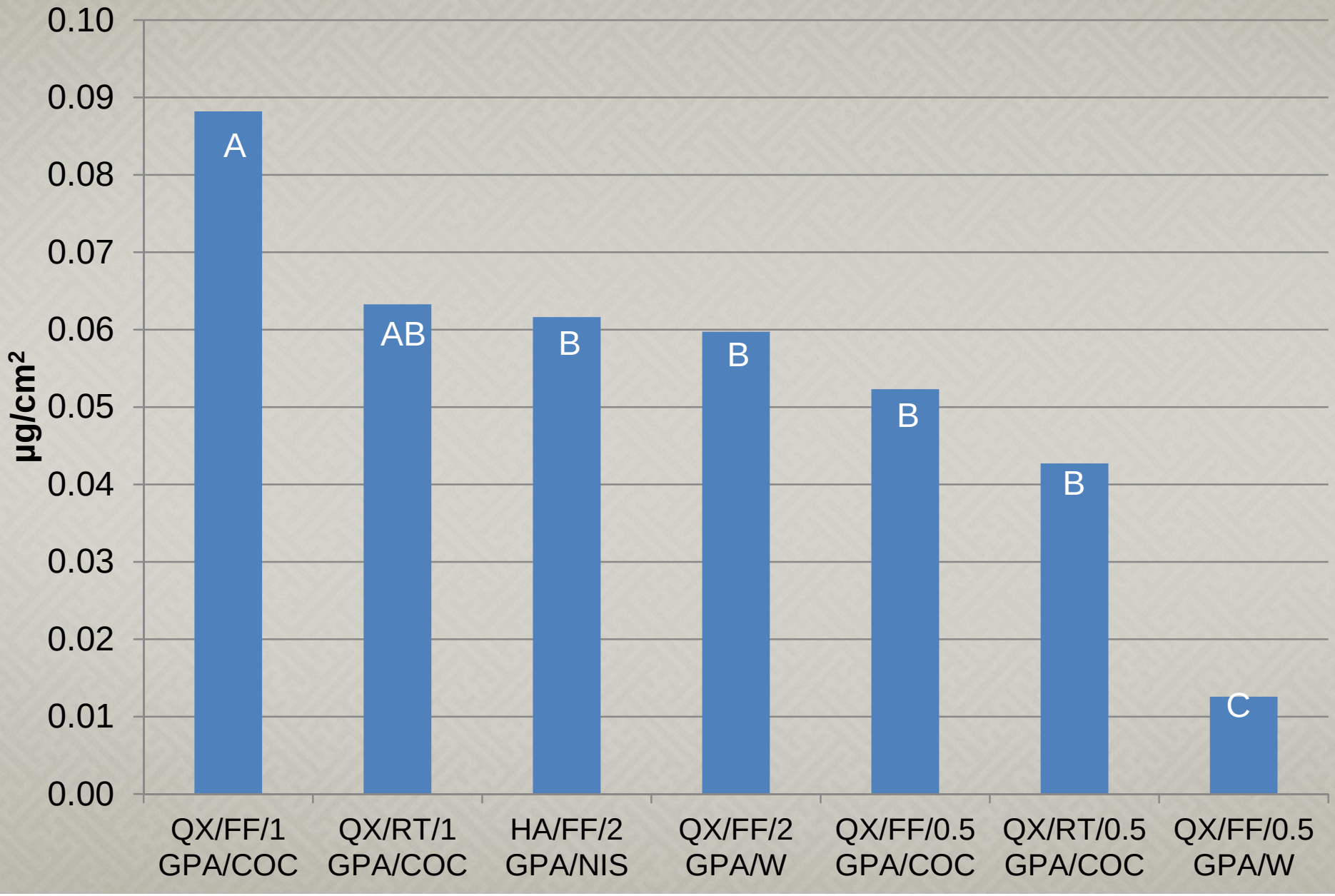


Yield – 1 field from 2009

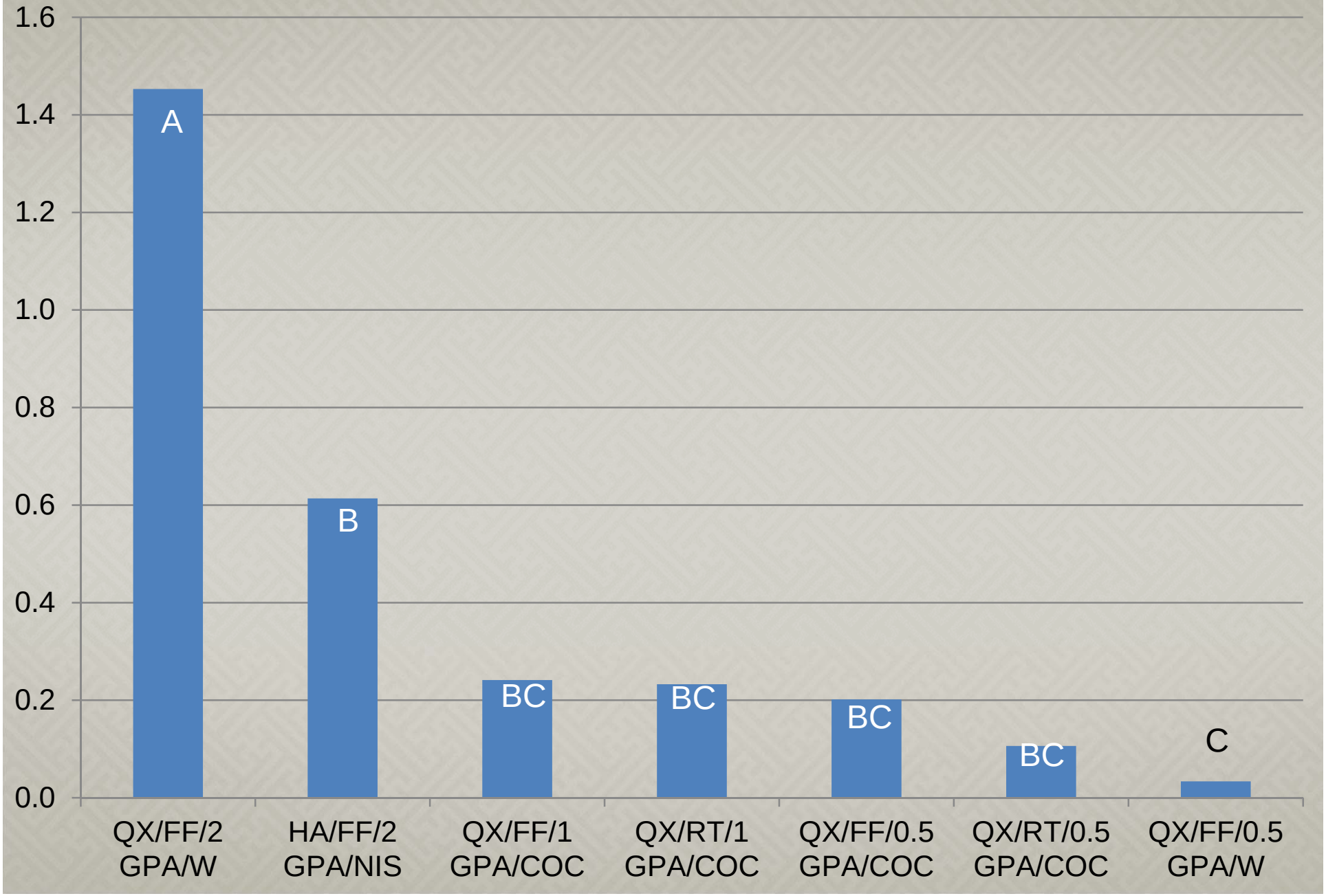
Deposition

- 0.007 B
- 0.003 C
- 0.005 BC
- 0.01 A
- 0.007 B

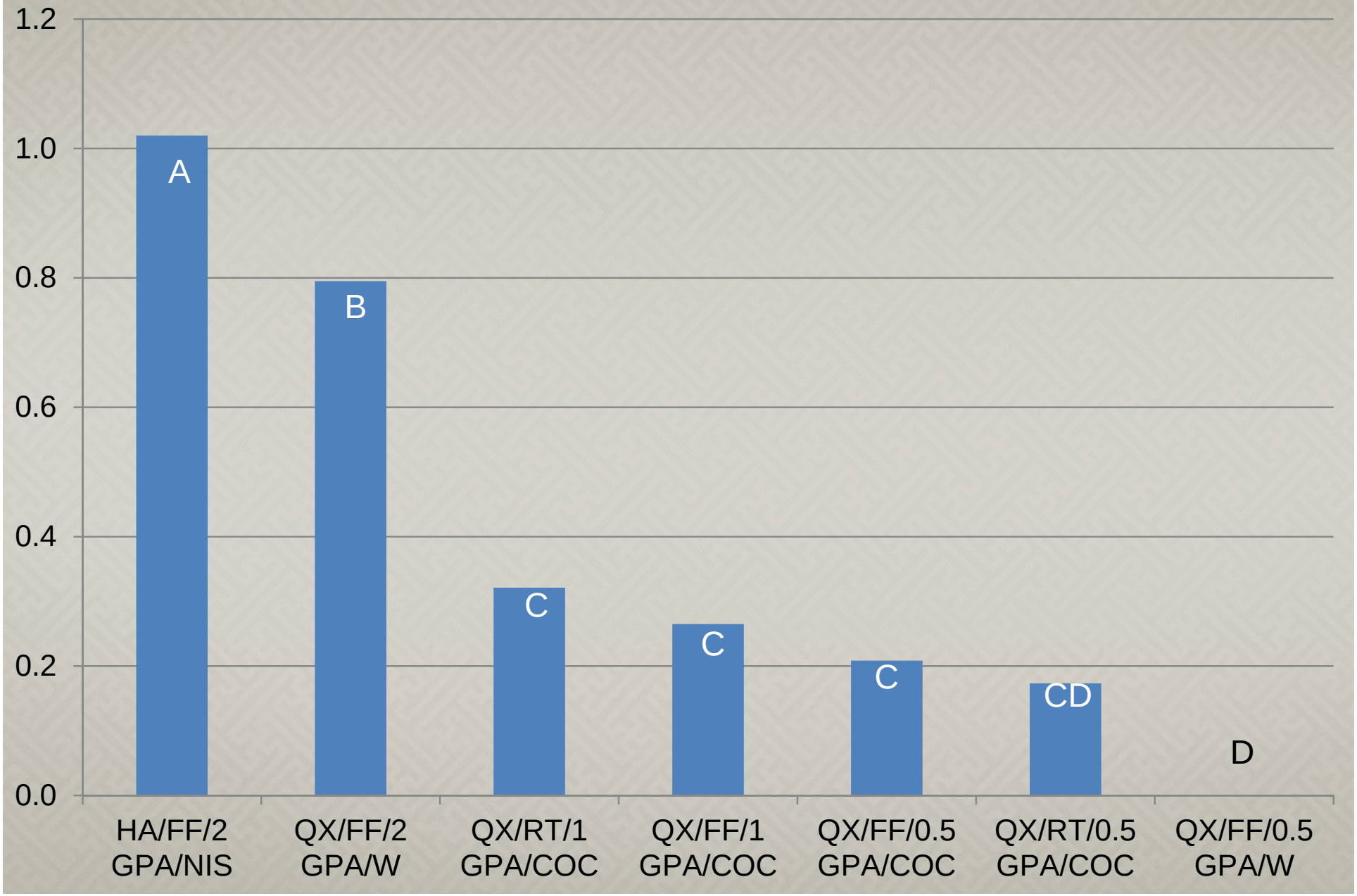
Deposition - 2010



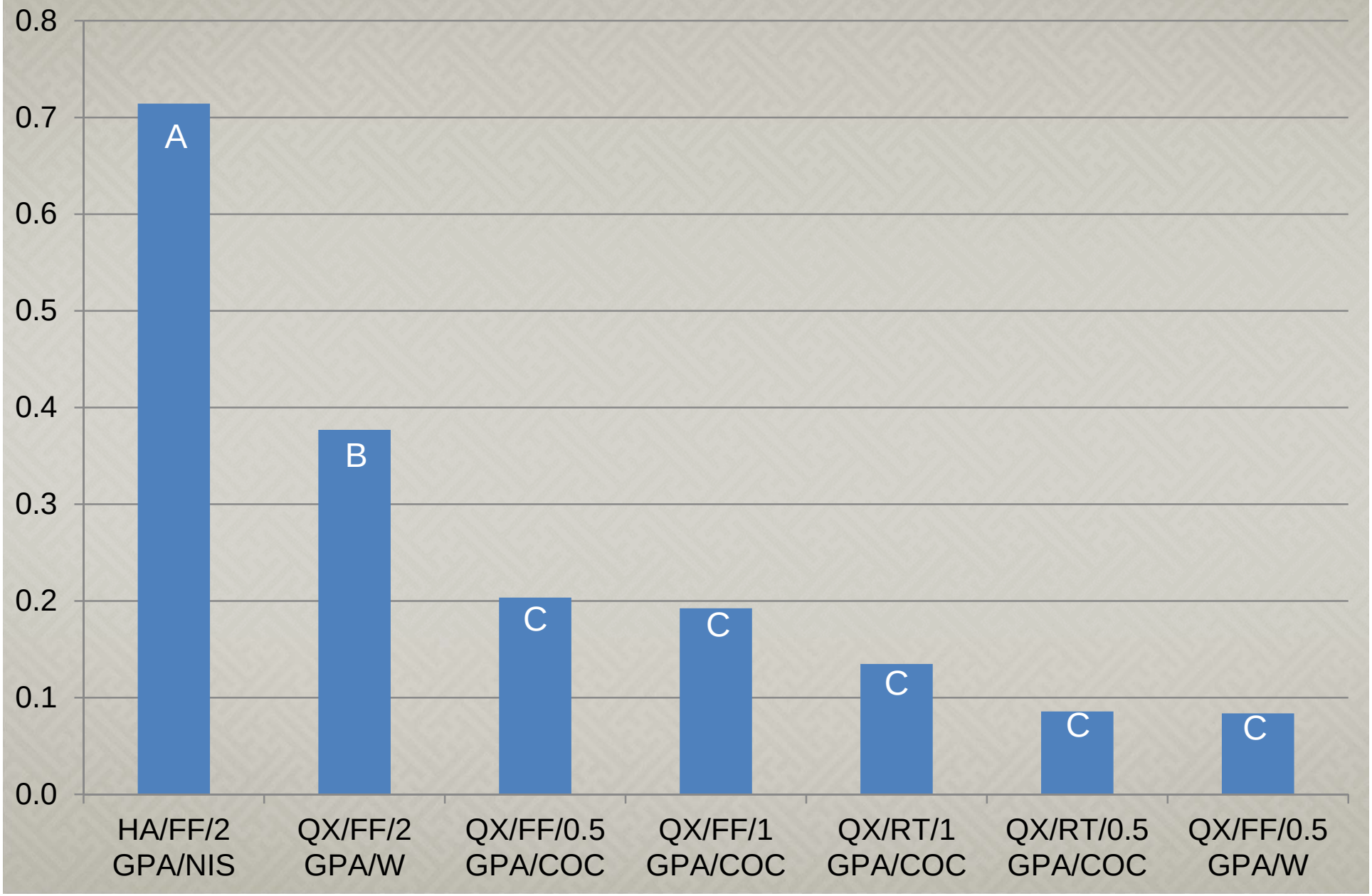
P cards – 2010: % cov



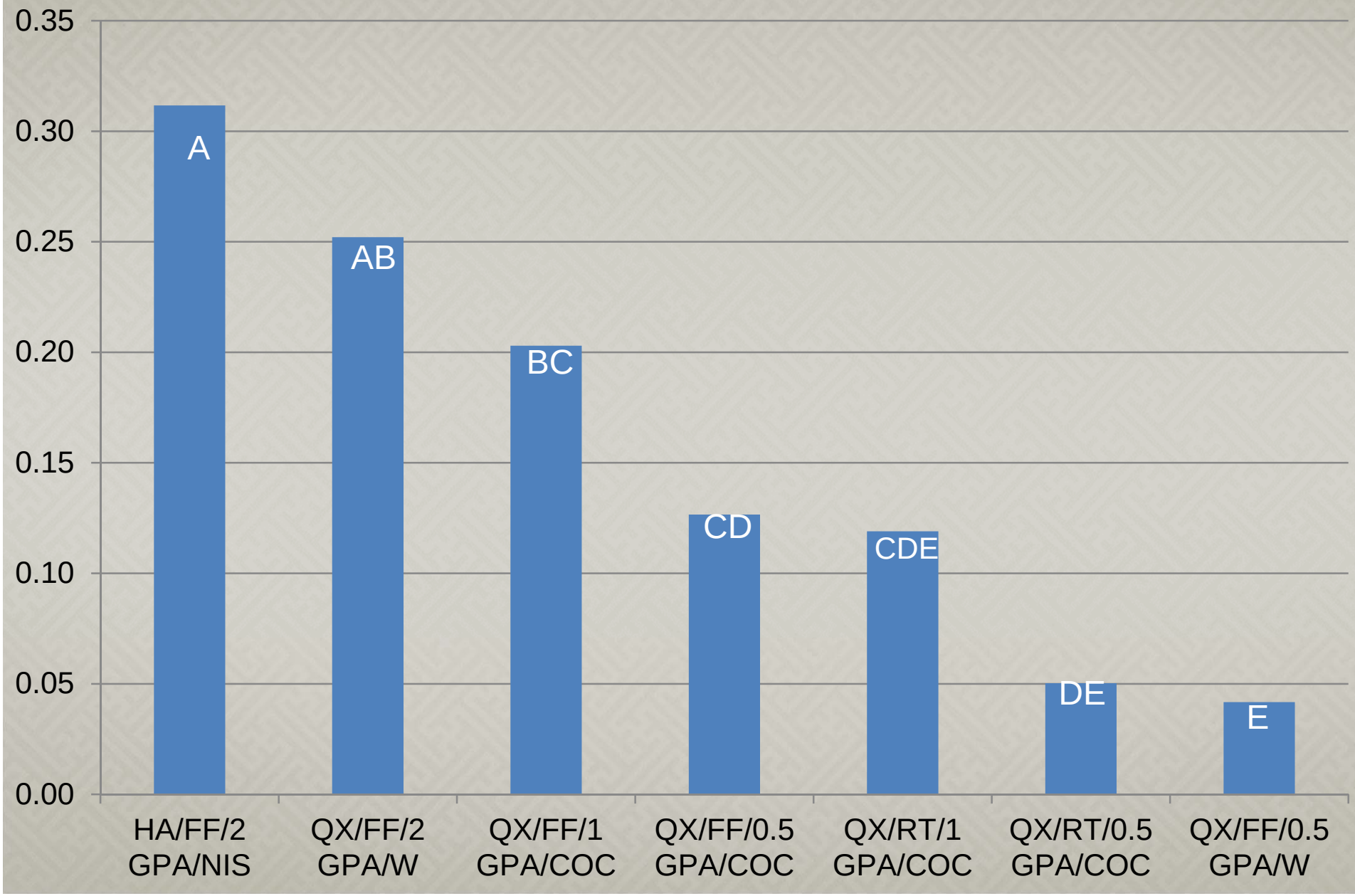
U cards – 2010: % cov



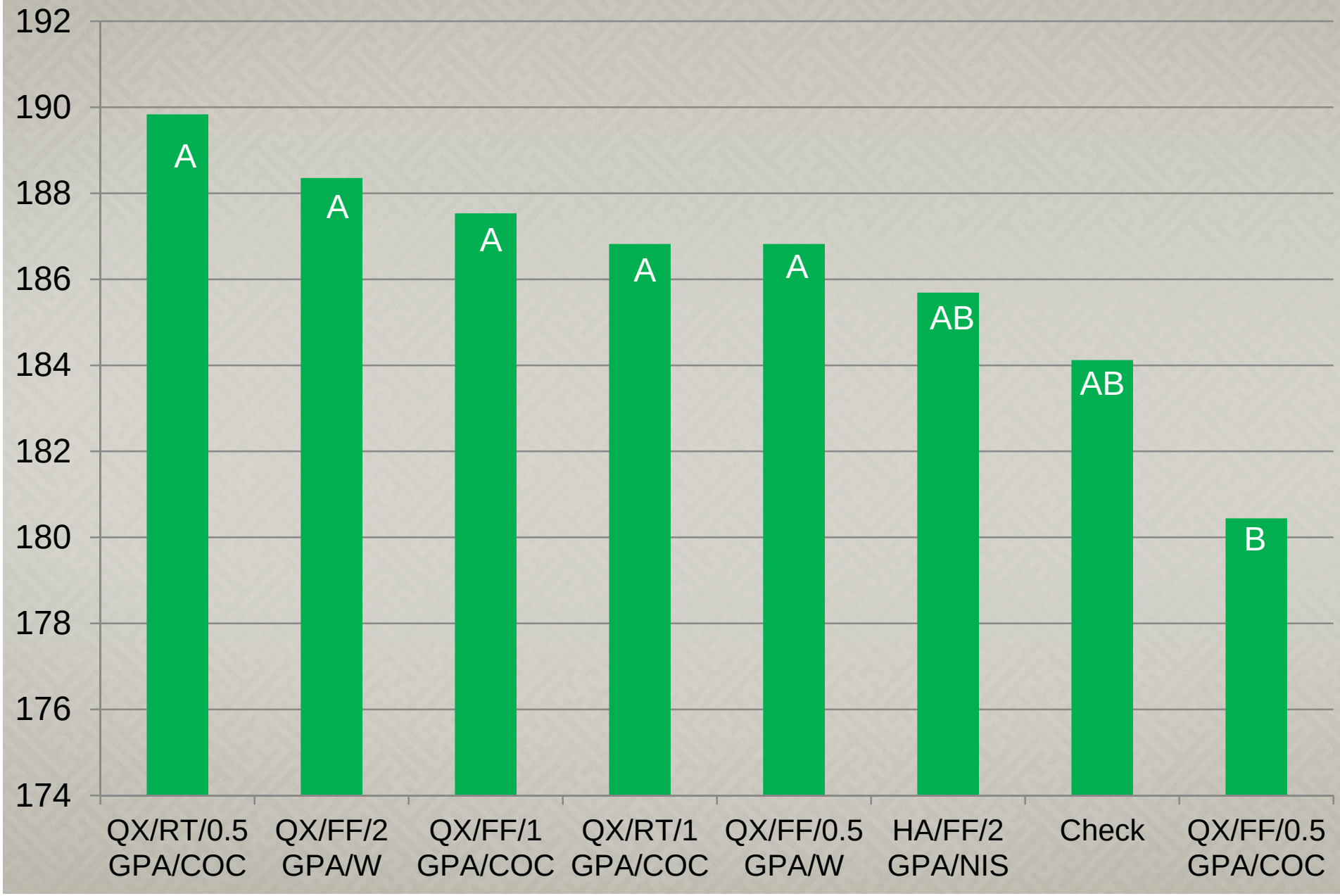
M cards – 2010: % cov



L cards – 2010: % cov



Yield - 2010


192
190
188
186
184
182
180
178
176
174
A
A
A
A
A
AB
AB
B
QX/RT/0.5 GPA/COC
QX/FF/2 GPA/W
QX/FF/1 GPA/COC
QX/RT/1 GPA/COC
QX/FF/0.5 GPA/W
HA/FF/2 GPA/NIS
Check
QX/FF/0.5 GPA/COC

Conclusions

- Crop oil concentrate improved deposition - degree of improvement increased with lower GPA
- 2 vs 1 2009: 2 w/COC > 1 w/COC > 2 wo/COC
- 2 vs 1 2010: 1 w/COC > 2 wo/COC
- 1 vs 0.5 2010: 1 > 0.5
- Flat fan versus rotary atomizer deposition
  - 1 GPA with water only – RT > FF, yield opposite
  - 1 GPA with COC – FF > RT, yield same
  - 0.5 with COC – FF > RT, yield opposite

QUESTION?

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