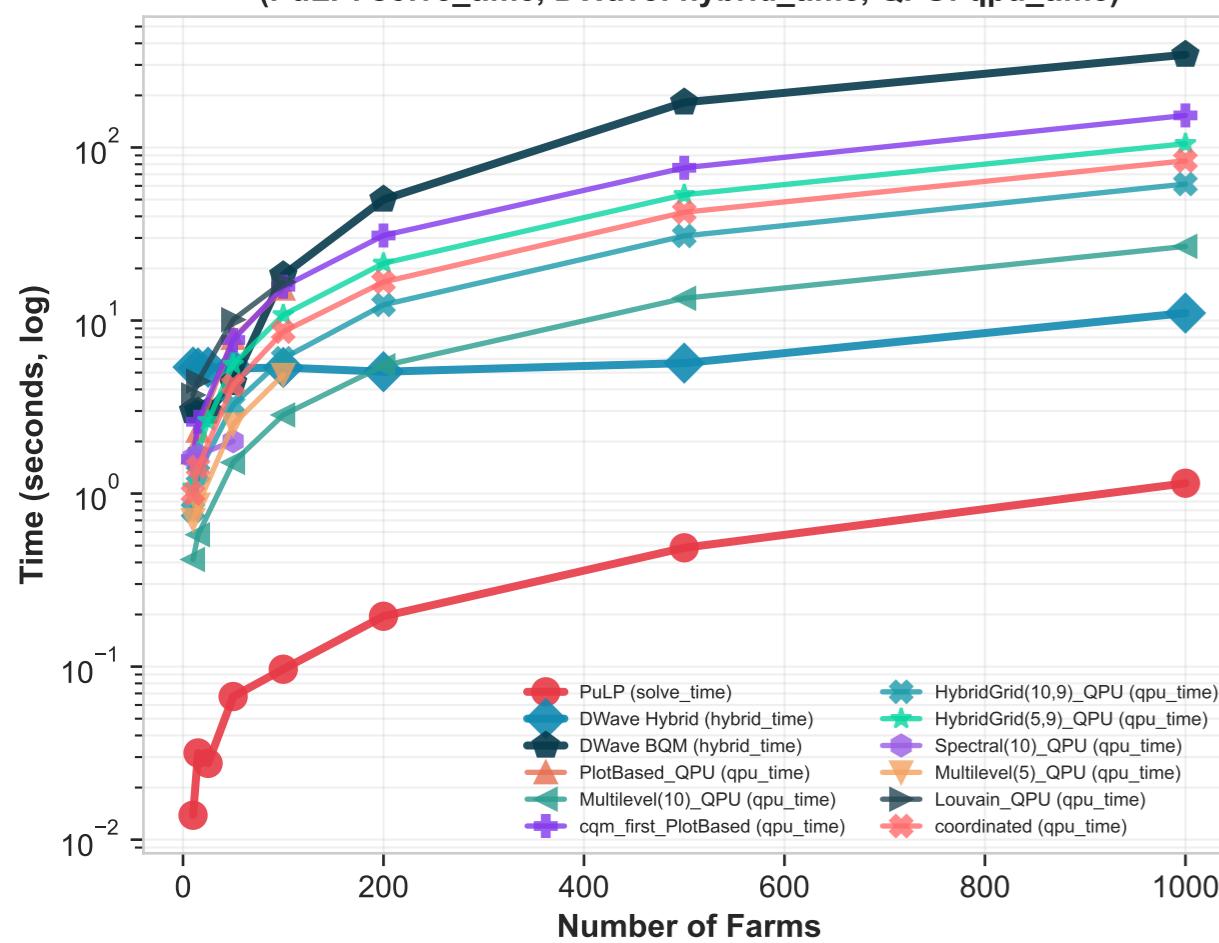


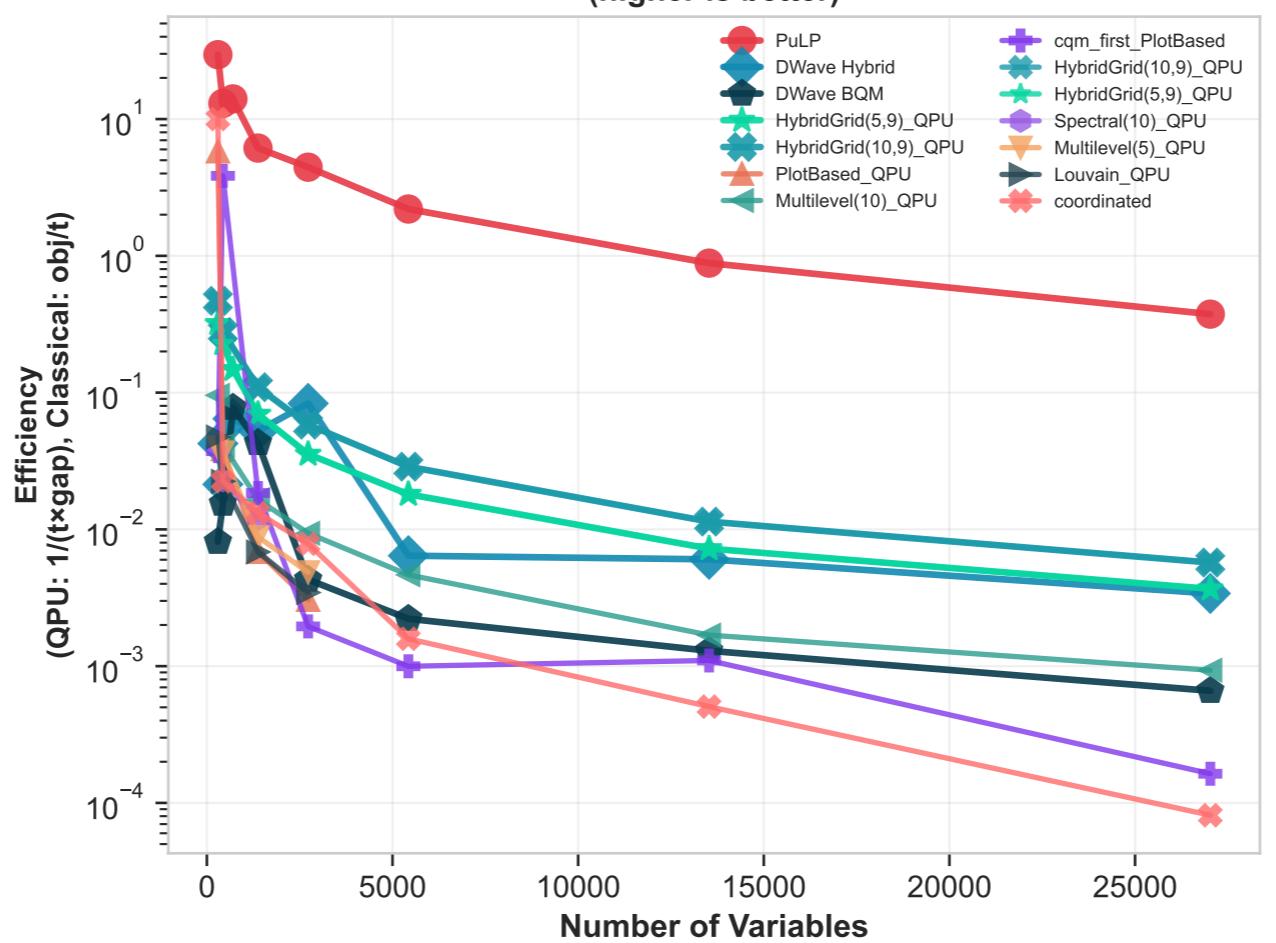
# Comprehensive Solver Comparison: Classical vs Hybrid vs Pure QPU

## Binary Crop Allocation Problem

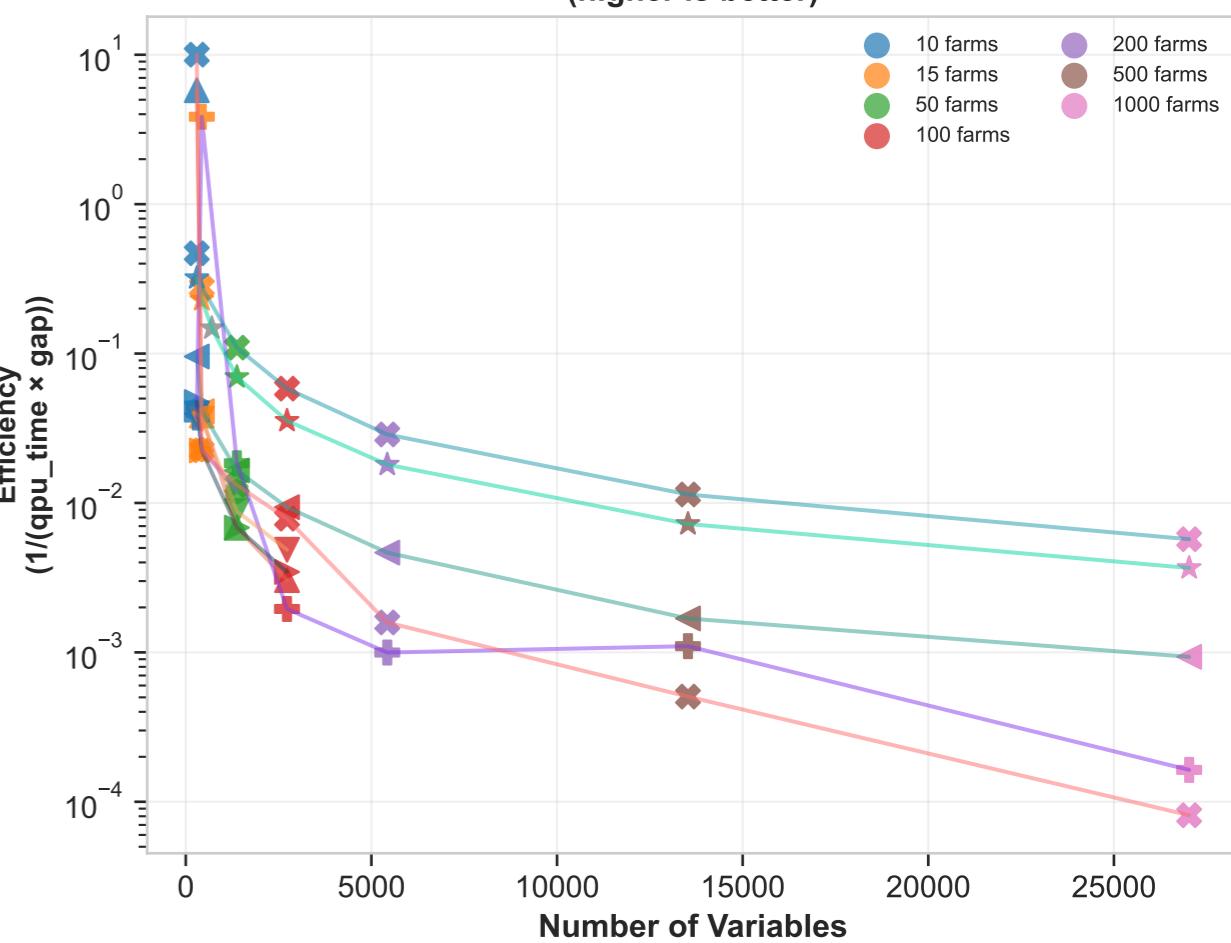
**Solve Time Comparison**  
(PuLP: solve\_time, DWave: hybrid\_time, QPU: qpu\_time)



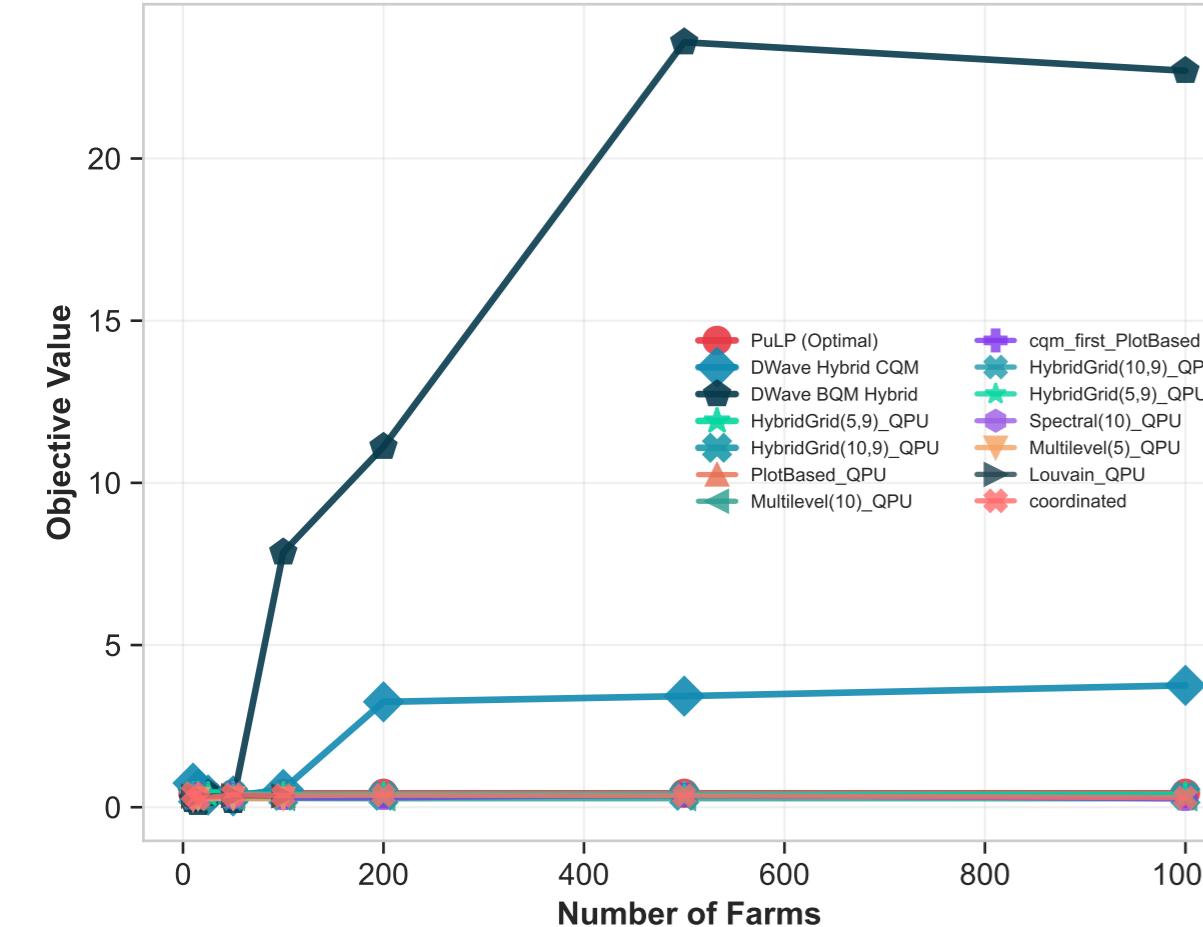
**Solution Efficiency vs Problem Size**  
(higher is better)



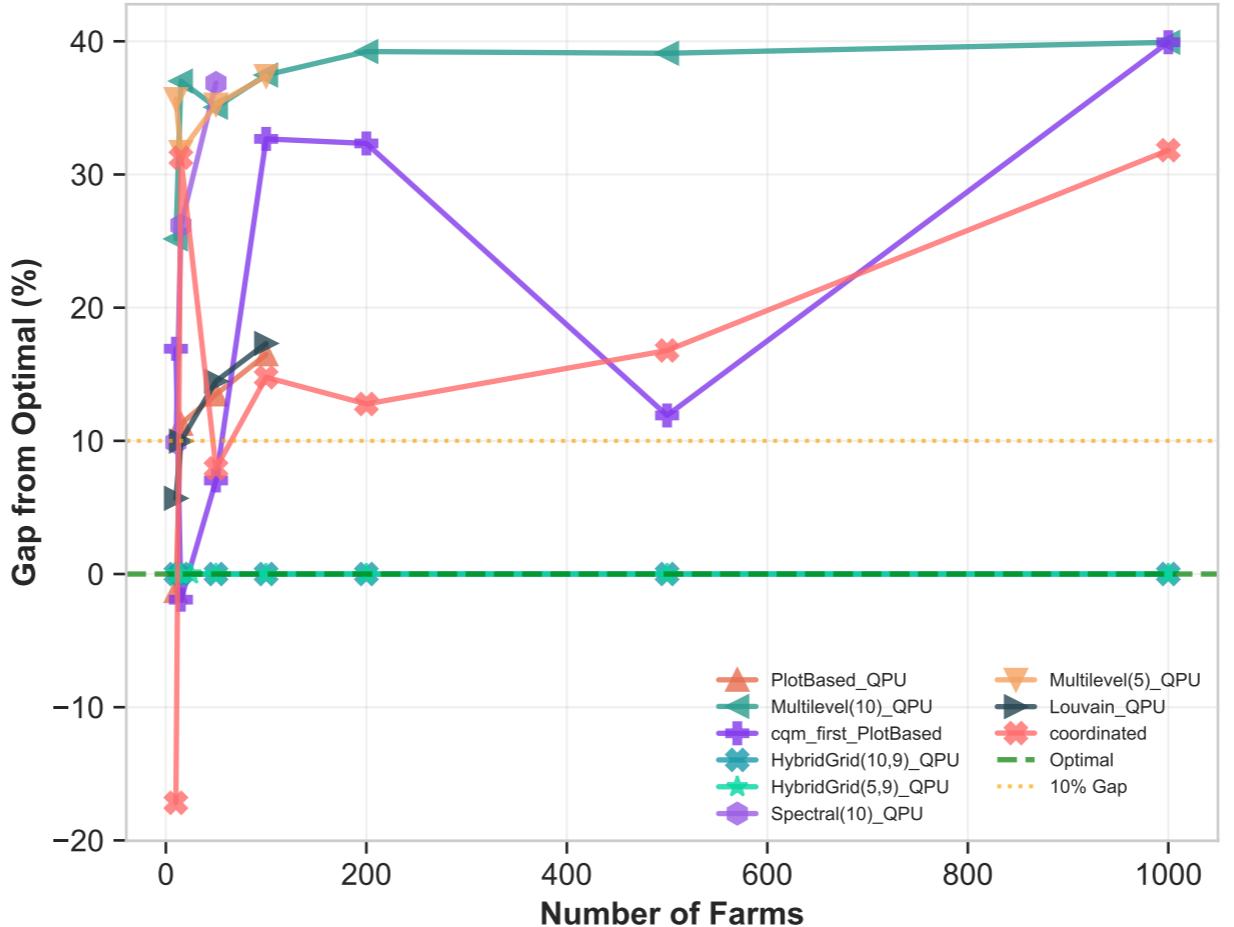
**QPU Efficiency by Scale**  
(higher is better)



**Solution Quality Comparison**



**Optimality Gap - All QPU Methods**



**Feasibility: Violations by Method**

