

## A Case Study of Bee Algorithm for Ready Mixed Concrete Problem

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**Abstract :** This research proposes Bee Algorithm (BA) to optimize Ready Mixed Concrete (RMC) truck scheduling problem from single batch plant to multiple construction sites. This problem is considered as an NP-hard constrained combinatorial optimization problem. This paper provides the details of the RMC dispatching process and its related constraints. BA was then developed to minimize total waiting time of RMC trucks while satisfying all constraints. The performance of BA is then evaluated on two benchmark problems (3 and 5 construction sites) according to previous researchers. The simulation results of BA are compared in term of efficiency and accuracy with Genetic Algorithm (GA) and all problems show that BA approach outperforms GA in term of efficiency and accuracy to obtain optimal solution. Hence, BA approach could be practically implemented to obtain the best schedule.

**Keywords :** bee colony optimization, ready mixed concrete problem, ruck scheduling, multiple construction sites

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