

Influence of Partially-Replaced Coarse Aggregates with Date Palm Seeds on the Concrete Properties

Authors : Fahed Alrshoudi

Abstract : Saudi Arabia is ranked the third of the largest suppliers of Dates worldwide (about 28.5 million palm trees), producing more than 2 million tons of dates yearly. These trees produce large quantity of dates palm seeds (DPS) which can be considered literally as a waste. The date seeds are stiff, therefore, it is possible to utilize DPS as coarse aggregates in lightweight concrete for certain structural applications and to participate at reusing the waste. The use of DPS as coarse aggregate in concrete can be an alternative choice as a partial replacement of the stone aggregates (SA). This paper reports the influence of partially replaced stone aggregates with DPS on the hardened properties of concrete performance. Based on the experimental results, the DPS has the potential use as an acceptable alternative aggregates in producing structural lightweight concrete members, instead of stone aggregates.

Keywords : compressive strength, tensile Strength, date palm seeds, aggregate

Conference Title : ICCEDP 2020 : International Conference on Civil Engineering and Disaster Prevention

Conference Location : London, United Kingdom

Conference Dates : June 29-30, 2020