

The holographic bound has been extended to the different theory of gravities such as scalar-tensor gravity and  $f(R)$  gravity according to the Noether charge definition of the entropy for a black hole surface. We have introduced some popular examples of the flat FRW cosmology in order to investigate holographic bound in scalar-tensor and  $f(R)$  gravities. Using the holographic bound, we put an additional constraint on the scalar-tensor gravity and  $f(R)$  gravity parameters.