1126-13-244 **Louiza Fouli** and **Bruce Olberding*** (olberdin@nmsu.edu), Department of Mathematical Sciences, New Mexico State University, Las Cruces, NM 88003-8001. *Reductions in Noetherian local rings with finite residue field.* Preliminary report.

A reduction of an ideal $I$ of a commutative ring $R$ is a subideal $J$ of $I$ such that $I^{n+1} = JI^n$ for some $n > 0$. Reductions play an important role in the study of Noetherian local rings by allowing a given ideal to be replaced by a "simpler" one in the form of a well-chosen reduction. However, much of the theory of reductions depends on the local ring having an infinite residue field. For example, if $R$ is a Noetherian local ring with infinite residue field and Krull dimension $d > 0$, then every ideal of $R$ has a reduction that can be generated by $d$ elements, an assertion that need not be true if $R$ has a finite residue field. We examine the number of generators needed for reductions of ideals in Noetherian local rings with finite residue field. (Received January 15, 2017)