1084-16-214 **Andrew Conner*** (connerab@wfu.edu), **Ellen Kirkman**, **James Kuzmanovich** and **Frank Moore**. *Finiteness conditions on the cohomology of monomial algebras.*

Let A be a finitely presented monomial algebra over a field k. Following C. Phan, we associate to A a finite directed graph $\Gamma(A)$ which encodes a minimal graded projective resolution of ${}_Ak$. The Gelfand-Kirillov dimension of the Yoneda algebra $\mathrm{Ext}_A(k,k)$ is easily described in terms of walks in $\Gamma(A)$.

After imposing some additional structure on $\Gamma(A)$, we also combinatorially characterize the Yoneda product on $\mathrm{Ext}_A(k,k)$. Our characterization yields combinatorial descriptions of finite generation and the Noetherian property. In particular, we show that determining if $\mathrm{Ext}_A(k,k)$ is finitely generated is a finite problem. (Received September 02, 2012)