Regular nilpotent Hessenberg varieties are subvarieties of a flag variety. I will explain a relation between the cohomology ring of a regular nilpotent Hessenberg variety and Schubert polynomials. To describe an explicit presentation of the cohomology ring of a regular nilpotent Hessenberg variety, polynomials $f_{i,j}$ were introduced by Abe-Harada-Horiguchi-Masuda. In this talk, I will show that every polynomial $f_{i,j}$ is an alternating sum of certain Schubert polynomials.