1124-05-199 **James Haglund**, **Brendon Rhoades** and **Mark Shimozono*** (mshimo@math.vt.edu), Department of Mathematics, MC 0123, 460 McBryde Hall, Virginia Tech, 225 Stanger St., Blacksburg, VA 24061. *Ordered set partitions, generalized coinvariant algebras, and the Delta Conjecture.*

The coinvariant algebra is a classical object that appears as the cohomology of the flag variety and as the ring of regular functions on the scheme-theoretic intersection of nilpotent matrices with diagonal matrices. We introduce graded algebras and symmetric group modules $R_{n,k}$ for $k \leq n$ such that $R_{n,n}$ is the coinvariant algebra. On the other hand, the shuffle algebra (also known as the elliptic Hall algebra, large rank spherical double affine Hecke algebra, and toroidal gl_1) acts naturally on symmetric functions (symmetric polynomial module). The Delta Conjecture of Haglund, Remmel, and Wilson, gives an explicit combinatorial formula for some values of this action. We show that when the Macdonald parameter t is set to zero, the HRW formula agrees with the graded Frobenius character of $R_{n,k}$ up to sign character twist and reversal of grading. (Received September 08, 2016)