Unraveling the genetic mechanisms associated with yield-limiting seed shatter in Northern Wild Rice (*Zizania palustris* L.)

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Northern Wild Rice (NWR; *Zizania palustris* L.) is an annual, aquatic crop with a nutritious and flavorful grain that is grown in irrigated paddies, primarily in Minnesota and California. Native to North America, the species shares a fascinatingly close relationship with white rice (*Oryza* sp.) and is considered to be one of the genus’ Crop Wild Relatives. NWR research has benefitted from this relatedness and the expansive genomic resources available in *Oryza* sp. Seed shattering, in particular, has been well studied in white rice and other major crops, leading to the identification of major genes and contributing to the development of the domestication syndrome theory. As a major limiting factor in NWR cultivation, seed shattering reduces yields by ~20% each season and leads to an unwanted, volunteer seed bank. Through a series of RNA- and DNA-based sequencing studies, including the analysis of expression levels of known *Oryza* genes associated with seed shattering, we are beginning to unravel the genetic pathways associated with seed shattering in NWR. Ultimately, we aim to incorporate marker-assisted selection into our NWR breeding pipeline in order to fix shattering resistance alleles and improve yield for NWR growers.