We all, directly or indirectly depend on plants as a food source. Seeds are a big part of our diet and also form the basis of modern agriculture as well as plants ability to transmit genetic information to the next generation. Seeds have evolved multiple mechanisms to cope with harsh external conditions allowing them to survive for extended period of time under very severe conditions. One somehow surprising mechanism is based on seeds ability not to germinate even though the conditions are favorable, a phenomenon named seed dormancy. This allows seeds to ignore temporally favorable condition that would not last long enough to support completion of the whole plant life cycle. One particular form of seed dormancy is secondary dormancy that is induced in seeds that have started to take up water during the first phases of germination but are challenged with long lasting adverse conditions. This project will describe how the seed perceives those conditions and how this leads to induction of key seed dormancy regulator *Delay of Germination 1*. This has not been extensively studied despite the importance of seeds and secondary seed dormancy for plants and our survival.