

# TECHNICAL BULLETIN

## GERMINATION - UNDERSTANDING DORMANCY



### What is Dormancy?

Before a seed germinates, it is a state called quiescence which means the seed is lacking the primary factors for germination. These factors are water, temperature, oxygen and/or light. Once these factors have been introduced, a seed will normally germinate. For seeds that don't, they are considered dormant.

Primary dormancy involves a variety of reasons why the seed will not germinate. It may involve a very strong seed coat, that won't allow the seedling to emerge, or an immature embryo that needs to ripen further before germination.

Secondary dormancy can occur after the seed has imbibed moisture, but some factor prevents it from continuing to germinate. Generally this can be attributed to inappropriate temperatures, light, moisture or oxygen.

### How to submit samples

- Follow proper sampling procedures to build a representative sample.
- Package 250 grams into a sample bag.
- Submit the sample to one of our Canadian laboratories. Numerous options are available for delivery of the sample.
  - Courier
  - Sample drop off either during business hours or after hours (in our drop box)

### How does SGS BioVision break dormancy?

- If seeds fall into the primary dormancy category, there are numerous ways to break the dormancy, some which are applied in the lab, as approved CFIA's Methods and Procedures for Testing Seeds. These include
  - Pre-Chilling
  - Potassium Nitrate
  - Gibberellic Acid
  - Temperature Fluctuation
  - Pre-Drying or Pre-Heating
  - Scarification
  - Light
  - Pre-Washing
- Overall, dormant seeds are not included in germination because it is very difficult to predict if seeds that appear dormant are truly viable. A dormant seed may be alive, but until dormancy is broken and the seed germinates, there is no conclusive way to confirm if the seedling has the capacity to produce a useable plant under field conditions.



Learn more about Germination Testing and our other services at [biovision.ca](http://biovision.ca).