Notes

1. Seed bags were buried in the ground for one year, I put roughly 100 seeds in each bag mixed with sand to reduce the risk of infection, your task will be to separate the seeds from the sand, then count the number of viable seeds leftover in each bag. This will help us understand how seed survival in the seed bank differs among species and is affected by different precipitation regimes.
2. All of the samples on in labeled bags or boxes on the shelf and each species is in a color coded bag
3. Because these are used to assess viability, we only really care about seeds with intact embryos, these should be easy to distinguish as healthy embryos are white and hard while bad embryos are yellow or mushy
4. The Grocery bag labeled “Marina Seed 2016” on upper left shelf has fresh seed of each species if you need a reminder of what they look like
5. Be sure to pull down only one bag at a time and keep completed bags separate as the individual baggies are not labeled
6. Once you have removed all the seed the sand can be thrown away;
7. Species - Learn to distinguish between AGHE and LACA, they look kind of similar: Laca has multiple spikier looking hairs protruding from the top of the seed, AGHE seed is slightly longer and typically had stripes going down the sides, instead of multiple hairs, it has one longer pappus

Protocol

1. Pour sand into beaker
2. Add water to cover sand up to an inch
3. Mix vigorously and before organic matter settles, transfer to strainer with coffee filter
4. If it stops draining, pour immediately into another filter paper in a different funnel. Do not let the seeds sit in the water, the embryos will pop out
5. Once all the water is drained, lay the filter paper on a pie tin lined with paper towels and allow to dry overnight. Be sure to label the tin with the plot number and species
6. Once they are all dry, look at each seed under the dissecting scope to determine viability of embryo, use a counter to count how many viable seeds there are in each sample