

ESTIMATING and CALCULATING to get to 10,000 SEED for SEEDS OF SUCCESS

Outlined below is the method all collectors should use to determine whether or not a particular plant population will yield the 10,000+ seeds needed for an SOS collection. The method is also outlined on the back of the data sheet under “assess population and assess seed quality”.

1. Identify a target population you believe is large enough for SOS.
2. Walk around the target population and estimate the number of plants in your population. Are there at least 50? If so, proceed to step 3. If not, keep searching for a better population.
3. Randomly select plants (small and large) throughout the population and estimate the following:
 - a. Average number of fruits per plant
 - b. Average number of seeds per fruit
 - i. If your population is still in flower, do your best to estimate the number of seeds per fruit – use your local flora if necessary.
 - ii. If your population is in fruit, you should easily be able to estimate the number of developing seeds per fruit by breaking the fruit open and counting ovules.
 - iii. If your population is close to the natural ripening stage, perform a cut test to accurately estimate the number of *viable* seeds per fruit. In a cut test you’re looking for seeds that are filled throughout the length of the seed and have a hard, waxy texture. It’s important to know how many seeds per fruit, on average, may be empty or have insect damage. Do cut tests on multiple seeds per fruit and multiple fruits per population. The more informed your estimates are, the better chance for a successful SOS collection.
4. Do the math!
 - a. $(\# \text{ of plants in population}) * (\text{avg. \# fruits per plant}) * (\text{avg. \# seeds per fruit}) * (0.2)$
 - i. This is an estimate of the number of seeds you can harvest from your population when taking only 20%. This number should equal **WELL OVER** 10,000 to account for any unforeseen viability issues, excessive insect damage, etc. If the number is 10,000 or less, the population is not appropriate for an SOS collection.

Take Home Message:

Remember, the larger the population, the better. Also, don’t stop collecting when you think you’ve reached 10-20,000 seeds! Be sure to sample evenly across the entire population, and collect throughout seed set if feasible, even if you’re sure you’ve reached 20,000 seeds on your first day of collection. Most collections fall prey to unforeseen viability issues and insect damage AND the more seed you make per collection, the more utility it will have. There are no penalties for collecting more than 20,000 seed!

Thanks to Carol Dawson for outlining the above process.