**Frass Collection Methodology**

**Materials:**

* Deionized water
* Peptone
* Sodium chloride
* 10 mL glass pipette tips
* Large test tubes
* Petri dishes
* Filter paper
* Glass storage jar
* Weigh boats
* Pasteural pipettes

**Procedures:**

1. **Make peptone water solution.**
   1. Weigh out 1.0g of peptone into a weigh boat.
   2. Weigh out 0.5g of sodium chloride into a separate weigh boat.
   3. Add 100 mL deionized water to glass storage jar.
   4. Dissolve peptone and sodium chloride into deionized water by swirling.
      1. Homogenized solution should be light yellow/beige.
   5. ***Storage: Lab refrigerator until expiration date on peptone bottle.***
2. Transfer plant material, filter paper, and frass from rearing tray into large test tube.
3. Use a pasteural pipette to add peptone water solution until all contents in tube are completely submerged.
4. Swirl test tube for 10 sec to rinse contents.
5. Line a Petri dish with filter paper.
6. Pour contents of test tube over filter paper into Petri dish.
7. Place filter paper (now with frass) on foil and dry in oven.

**Results:**

The peptone water solution was a simple, easy-to-follow recipe that did well in separating and suspending the frass from the larvae. Using the white filter paper also made it very easy to see the frass once the peptone water solution was filtered into the Petri dish. We need to weigh filter paper by itself and see what the weight difference is after drying in the oven to determine if we can just weigh the filter paper with frass immediately after removing the oven.

**Summary:**

Using a peptone water solution to rinse the frass off filter paper and plant material is an effective and efficient way to collect frass from larvae. The peptone water solution should also be made in bulk (standard recipe in white binder makes 1 liter) and can be stored in a glass jar in the refrigerator in the lab. We still need to test the weight difference on the filter paper after drying in the oven to determine if we can weigh the filter paper with dried frass after removal from the oven.