**Jamaica Farmer 2 Farmer Molecular Biology Workshop**

This part of the workshop will walk us through sample preparation, DNA extraction and purification, PCR, and agarose gel electrophoresis using a sample of symptomatic plant tissue.

**Sample Preparation**

1. Grind a piece of symptomatic plant tissue using a sterile grinding bag or mortar and pestle.
2. Transfer up to 1 ml of plant extraction liquid into a 1.5 ml tube.
3. Spin at 12,500 rcf for 3 minutes.
4. Remove and discard supernatant.
5. Pellet can be stored at -20°C or immediately proceed to DNA extraction.

**DNA Extraction and Purification**

1. Add 150-200 ul of Instagene Matrix (Biorad #7326030) to your sample.
2. Vortex on high for 10 seconds.
3. Incubate at 56 °C for 15-30 minutes.
4. Vortex on high for 10 seconds.
5. Incubate in the dry bath at 100 °C for 8 minutes. Open the caps to reduce the internal sample pressure partway through incubation, perhaps at 6 minutes.
6. Vortex on high for 10 seconds.
7. Centrifuge at 12,500 rcf for 3 minutes.
8. Move supernatant to a fresh 1.5 ml tube.
9. Store at -20 °C until needed.

**PCR** – see Excel spreadsheet

**Agarose gel electrophoresis** – see additional document