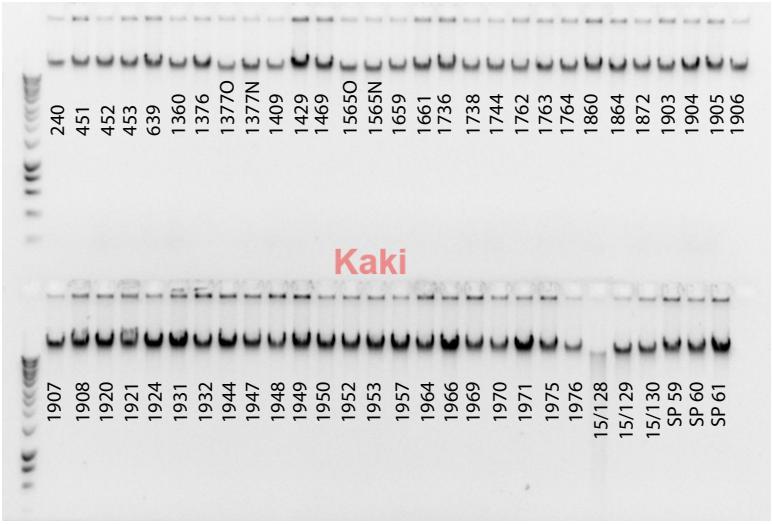
Guidelines for preparing gel images

Please also refer to our *Guidelines for GBS Sample Submission* document.

To ensure the success of your project, we must be sure that DNA samples are of high quality. Therefore, we require that you provide gel images of DNA samples prior to submission. We need to see gel images of every DNA sample (not cut by restriction enzyme) to ensure that they are not degraded. We will review the gel images and you will have an opportunity to replace any samples that are degraded before shipping. We also need to see trial digests of 10% of samples to ensure that DNAs can be sucessfully digested by restriction enzymes.

Preparing gel images of all uncut DNAs

- Prepare a 1% agarose gel.
- Be sure to load a DNA ladder. Please either tell us which ladder you used and provide a link, or provide an image for that ladder.
- Load each individual DNA sample in a separate well.
- Load a total of 120ng DNA per well. For example, if the concentration of your DNA sample is 40ng/µl, then load 3 µl.
- Run the gel long enough for the ladder to resolve.
- Photograph the gel.
- Label each well in the photograph with the sample name.
- Undegraded DNA samples will have a high molecular weight band (greater than 20 Kb). DNA samples that are highly degraded will appear as a smear. Sample 15/128 in the image below appears degraded to the extent that it is likely to fail.



Preparing gel images of digested DNAs

- Perform trial digests on aliquots from 10% of your DNA samples. For example, if you have 90 samples, then you will need to perform trial digests on aliquots from 9 of these samples. We recommend using an inexpensive 6-base cutter, such as *Hin*dIII or *Eco*RI.
- Prepare a 1% agarose gel.
- Be sure to load a DNA ladder.
- Load aliquots of cut and uncut DNA from the same sample in adjacent wells, as shown below.
- Load a total of 120ng DNA per well.
- Run the gel long enough for the ladder to resolve.
- Photograph the gel.
- Label each well in the photograph with the sample name and whether the DNA is cut or uncut.
- Uncut samples should be of high molecular weight (as described in the previous section), whereas, cut samples should appear as a smear without a distinct high molecular weight band.