

## Appendix 2. Exploring the factors with potential contribution at a low genotyping success for the 2018 scat samples.

The problem of poor DNA quality is expected in non-invasive samples. The loss of samples because of that was higher in the scat samples, especially in the 2018 sampling (45.2% poor samples in scats). Thus, we further explored possible factors affecting the success rates. We explored the amplification success in relation with the field estimated sample age (Figure 1), the month the sample was collect (Figure 2) and with the scat content (Figure 3). The problem with the scat content is that there were several food items recorded in single scats. We made an artificial dataset where different food items were recoded separately into dummy variables. If a scat had several food items, each item was repeated.

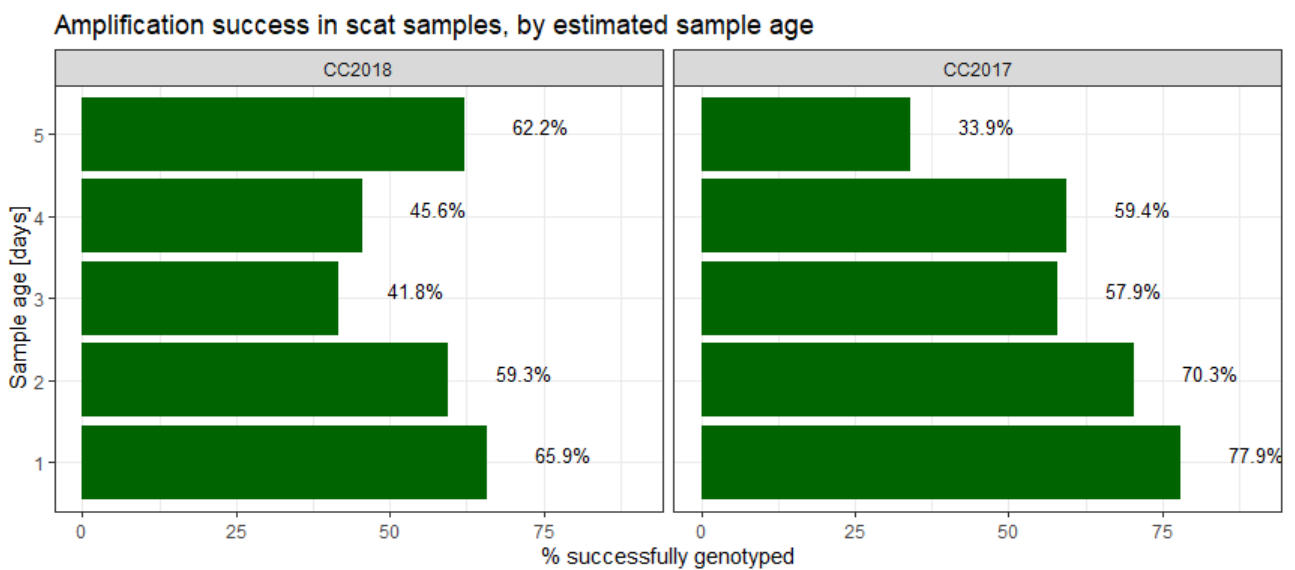


Figure 1. Scat samples amplification success by the field-estimated age of the samples (1-5 days old).

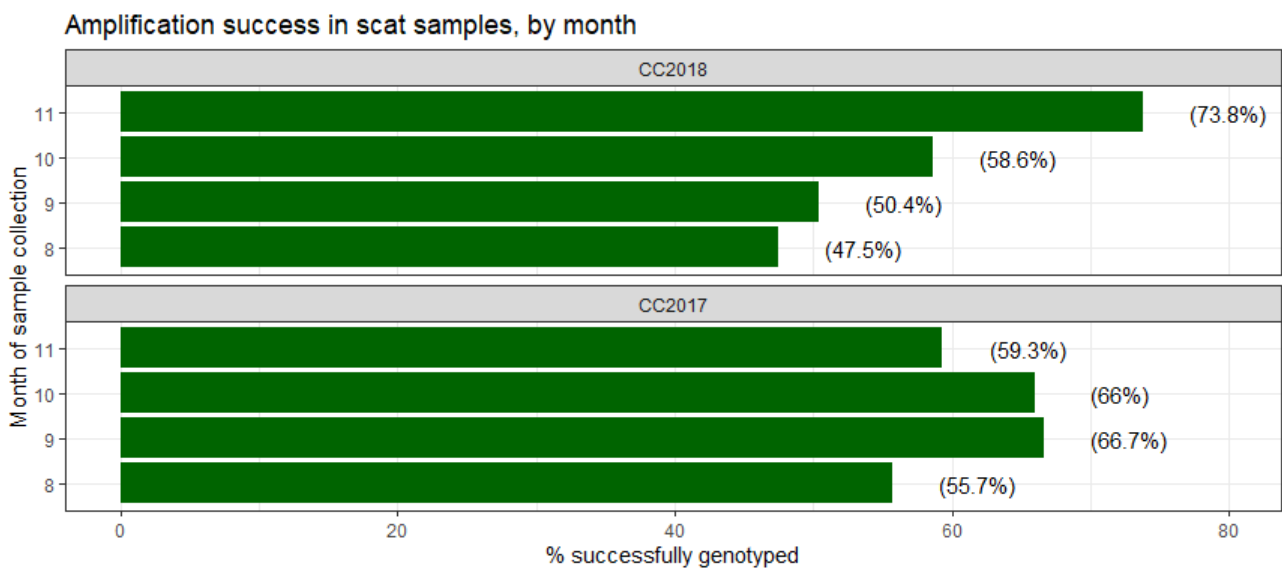


Figure 2. Scat samples amplification success by the month the sample was collected.

### Amplification success in scat samples, by scat content

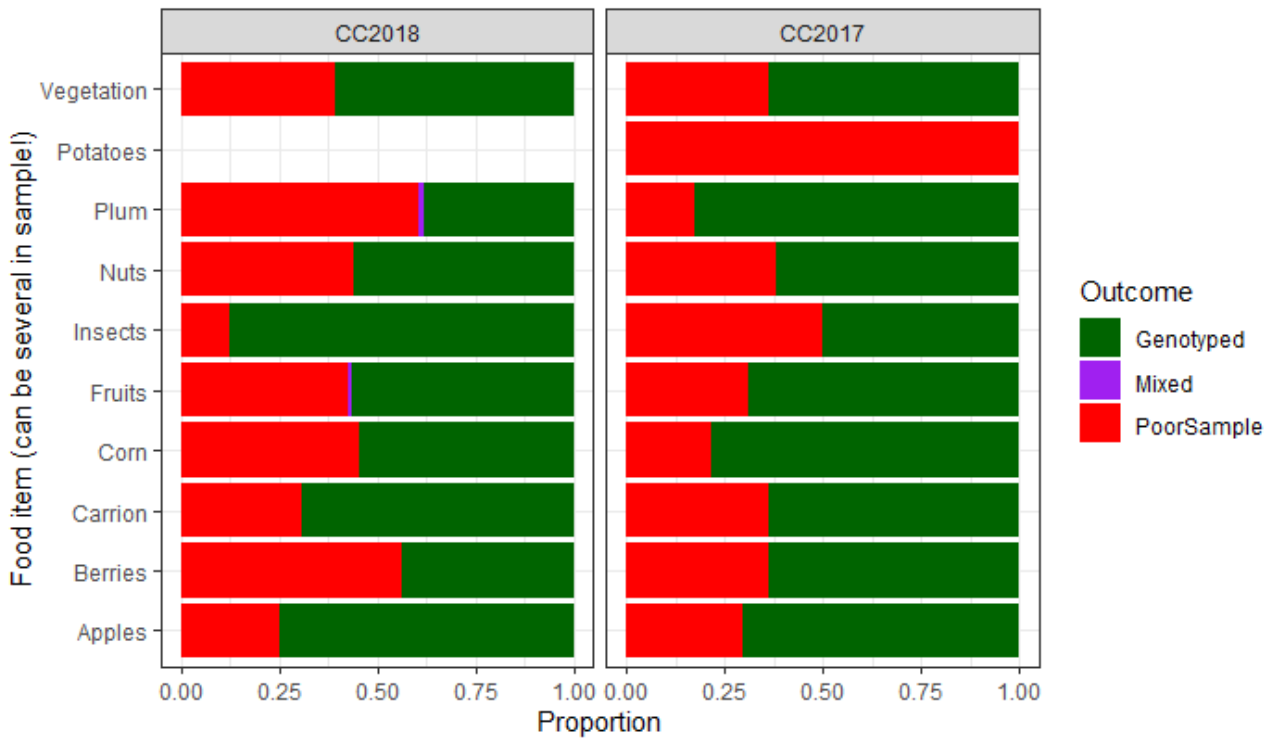


Figure 3. Scat samples amplification success by the scat content.

While in 2017 the relation between amplification success and the field-estimated age of the scat was linear, decreasing from 1-day old sample to 5-days old sample, in 2018 this relation is no longer clear, with 5-days old samples having higher amplification success than 3-days old samples. The median of the field-estimated sample age is comparable between the two sessions, with samples being 3-days old in 2017 and 2-days old in 2018. The month a sample was collected might explain the amplification success well in 2018 with samples collected later during the autumn, when the temperature is lower, having higher success. However, this relation is not valid in 2017. Scat content analysis too is not showing a clear effect of food content on amplification success.