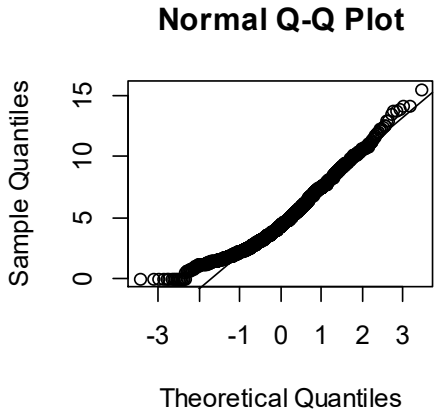
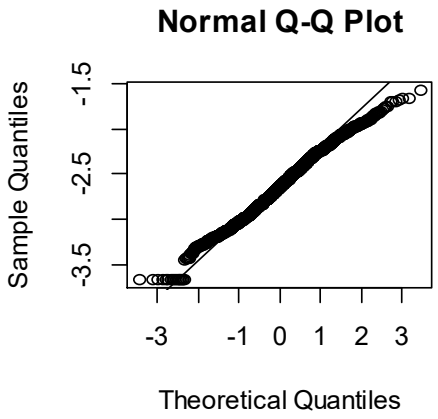
heritabilities. And that stumbles back into the question of whether Block should be a fixed effect or a random effect – ugh!!!

At that point (p. 316-317), Block as random effect had a AIC value 20 pts lower than as a fixed effect – but I don't know that AIC is an appropriate measure for fixed vs. random. In the two models, where mostly I want to know if Volume (cube root) affects Damage (logit), there is only a very small difference between treating Block as fixed or random (very very slightly more effect when Block is fixed). The other main question of those models is whether or not Genet makes a difference, and its effect (variance) is very very slightly greater when Block is random (0.077 vs 0.074). So bottom line is really *it makes no difference*, which is good. I would go with Block as a fixed effect since that seems more to me like what it is, part of the experimental design.

What about PG or CT data, which are expressed as percents? Are these also best transformed into logits?

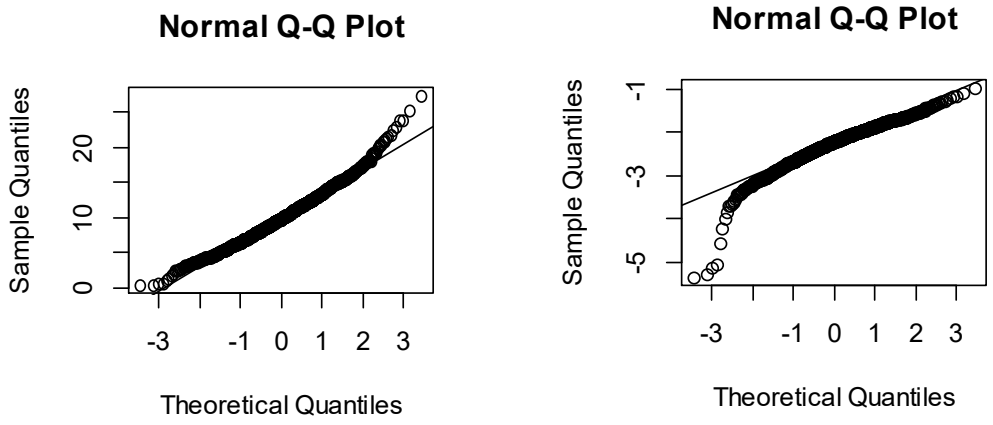
Here is the logit transformation for the August 2017 PG data (untransformed on left). I don't know what that break in the line is at the bottom left – maybe this is including missing data? It's not clear to me that the logit transform (right) is improving the distribution.





Here is a similar pair of plots for the June 2017 CT data:

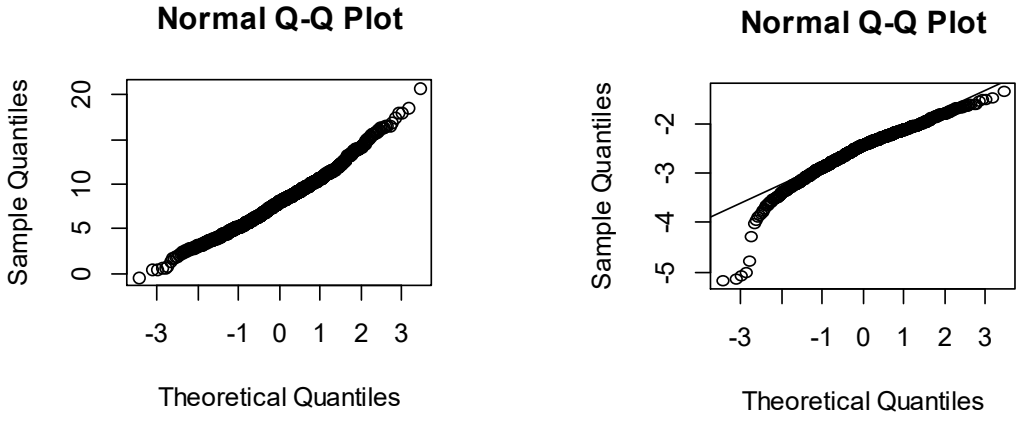
Left: untransformed Right: logit transform



Again, it's not clear that the logit transform improves the distribution – in this case it seems to be worse.

Here are the same for the August 2017 CT data. Logit seems worse:

Left: untransformed Right: logit transform



In doing that, I found that there was a data point of -0.39 for the cottonwood in the data set, which I've changed to NA.

1 October 2018 – Monday

Sometimes would be helpful if this Log had an index, but I think that would be very time-consuming to make. Immediate point: would be useful if I could easily look up summaries of which transforms work best for which data. I'll start this table today, but will plan to add to it later.

Data type	Best transform	Log Ref. Page
# Flowering Twigs	log; drop n=0	215
volume	cube root	222
leaf damage %, insects	logit	235
leaf damage %, disease	logit	235-236
leaf damage %, scrapers	logit	236
leaf damage %, total	logit	237
CT (%, Aug 2017)	none	543
PG (%, Aug 2017)	none	542
???	Box-Cox	221