What Does Reproducible Research Mean for Plant Pathology?

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# ABSTRACT

Abstracts are mandatory and limited to one 200 word paragraph.

# MAIN TEXT

Reproductibility and replicability in scientific research have once again been highlighted recently (Nature 2016; Baker 2016) as an issue.

Patil et al. (2016) have provided several definitions to clarify the concepts surrounding reproducibility and replicability. For the purposes of this paper we follow the definitions as given by Patil et al. (2016).

* Why reproducible research

## BEST METHODS FOR REPRODUCIBLE RESEARCH

* Provide definitions (provide defintions for terms used so it's clear)
* Data
* Data formatting (flat files; use Comma Chameleon, Table Tool, others?)
* Data storage (don't edit raw data files; use file permissions to prevent changes to raw data files, use data bases where possible and appropriate; etc.)
* When publishing
* Provide data
* Provide code
* Using GitHub for code (and small data?)
* Using Figshare or Zenodo vs a lab website (DOIs, other reasons)

## WHAT IS THE STATE OF REPRODUCIBLE RESEARCH IN PLANT PATHOLOGY?

* Madden et al. (2015) supply an *e-****X****tra*\* with repoducible examples for readers.
* Duku et al. (2016) provide models, data and code, (<http://adamhsparks.github.io/MICCORDEA/>) necessary to replicate the entire study modelling the effects of climate change on rice bacterial blight and rice leaf blast in Tanzania.
* Sparks et al. (2011, 2014) provide models, data and code, (<http://adamhsparks.github.io/Global-Late-Blight-MetaModelling/>) necessary to replicate model development and the subsequent the study on the effects of climate change on potato late blight.
* Other examples from plant pathology providing e-Xtras or supplemental material

## DISCUSSION

## ACKOWLEDGEMENTS

### Notes

These are links to resources that may be useful for writing this or as suggested resources in the final document that aren't easily printable for inclusion in the Dropbox folder.

<https://www.r-statistics.com/2016/07/the-reproducibility-crisis-in-science-and-prospects-for-r/>

<https://github.com/ropensci/rrrpkg>

### LITERATURE CITED

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