DESCRIPTION OF DOCUMENTATION FOR:

"HONEYBEE VALUATION 10 YEARS AFTER COLONY COLLAPSE DISORDER" (2017)

The data management and analysis for the paper were conducted using R version 3.4.0 and RStudio version 1.0.143 It has been written to run on a Mac operating system. In addition to the base R package, several packages are used. These can be seen at the top of the Rmd document loaded in the first code chunk.

The paper was knitted to pdf using the **elsevier article** format contained in the rticles package. Knit- ting to pdf requires a LaTeX installation.

The documentation is organized into three main directories (listed in order of importance for reproduction of results):

• **Source code:** Here you will find the Rmd file that reproduces the entire paper used to knit the pdf.

• **Processing and analysis**: contains all data called by the Rmd file in analysis. The importable data folder contains the original data files modified to the minimal extent necessary to import them into R as well as two data files that I compiled using information from the USDA and the Mid-Atlantic Apicultural Research and Extension Consortium. All further processing is done in the code.

• **Original Data**: contains two original data files from the USDA with import data. The rest of the data files are in the importable data folder since I compiled the data myself and it was made ready to be imported.

<u>To reproduce all results reported in paper:</u>

Copy the **Documentation** folder to your computer. Make sure to leave the folder structurally intact. The code has relative paths to the data and supplementary code that assume the data is in this folder structure. The Documentation folder can be moved or renamed as necessary, but everything else must remain unchanged.

Open the Rmd file in the **Source Code** folder using R Studio. Make sure all required packages are installed. Run all code in the file. If the output format is changed to an R notebooks format, the chunks can be run

one at a time to see individual results.Knit the file to **Elsevier_article.** (Knitting to other pdf formats should change only the formatting. You

must have a LaTeX installation on your computer to do this.