***Information****: The following content is written in markdown syntax. The journal requested to wrap everything in a word document and did not accept the plain `.md` files. You might want to move the content into a `.md` file and preview it with your favourite markdown editor.*

Dear Editor,

Please find the replies to all reviewer suggestions/questions in their respective files (labeled as `reviewer<x>.md` where `<x>` is the reviewer number starting from 1).

Also we have added a changelog section further down below summarizing all changes we have applied to the manuscript as a result of this review.

With respect to the many helpful remarks of both reviewers, we did not implement/agree on the following suggested changes:

- The use of smoothing techniques as a preprocessing task for the hyperspectral data.

- Adding the spectral response function of the hyperspectral sensor.

- The inapplicability of using a buffer to reduce the influence of non-vegetation pixels and accounting for possible geometric offsets.

- A potentially inconsistent numbering of Figures / Tables.

- The request to include wrapper methods for feature selection.

We have outlined our reasons in detail in the respective in-line replies for each individual point.

In summary, we believe and hope to have addressed most reviewer remarks and that we incorporated a lot of helpful ideas from the reviewers into the current version of the manuscript and hope the manuscript can now be considered for publication.

# Changelog

- Updated captions of almost all table and figure captions according to feedback from reviewer2

- Clarified the presence of inconsistent (= non 5% interval) defoliation values for plot Laukiz2

- Updated the study area map according to feedback from reviewer2

- Added a featureless learner to the benchmark results table as a baseline reference for performance comparison

- Updated the legend ordering and color palette in Fig. 3 according to feedback from reviewer2

- Rephrased the section discussion the performance of models which used PCA as a filter after feedback from reviewer2

- Clarified the removal of features with a pairwise correlation of 1 after feedback from reviewer2

- Added a reference why RBF Kernel was chosen as the kernel for the SVM learner after feedback from reviewer1

- Revised the use of abbreviations after feedback from reviewer2

- Rephrased the usefulness of machine learning for this study

- Added references to paragraph P.2, 2nd column on LL.47-5 as suggested by reviewer 1

- Added references analyzing defoliation caused by Diplodia Sapinea to section "Comparison to other studies"

- Pruned sections "Model differences" and "Performance vs. plot characteristics" to reduce potential overlaps with the "Results" section as indicated by reviewer2